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FORM PTO-1082 (modified)

Case Docket No.: MCP 207

THE COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, DC 20231

Sir: Date: October 18, 2000

Transmitted herewith for filing is the patent application of

Inventor(s): Corey Young
David Kovanen
Joseph Fullmer

For: ENHANCED HUMAN COMPUTER USER INTERFACE SYSTEM FOR SEARCHING AND BROWSING DOCUMENTS

Enclosed are:

[X] Specification - 46 pages
[x] Claims - 2 pages
[x] Abstract - 1 page
[X] 19 Sheets of drawing. (FIGS. 1-20)
[ ] A certified copy of a _____ application (priority document)
[x] A declaration and power of attorney
[ ] Assignment
[ ] Assignment recordation cover sheet
[ ] Check for $40.00 Assignment recordation fee
[x] Verified statement to establish small entity status under 37 CFR 1.9 and 37 CFR 1.27
[X] Preliminary Amendment

[x] Priority is hereby claimed on the basis of the following:

Country	Serial No	Date
USA	60/160,243	10/18/99

The filing fee has been calculated as shown below

FOR	(Col 1) NO. FILED	(Col 2) NO EXTRA	SMALL ENTITY RATE	FEE	OTHER THAN A SMALL ENTITY OR	RATE	FEE
BASIC FEE				$ 355.00	OR		$ 710.00
TOTAL CLAIMS	15 - 20=	0	x 9=	$ 0	OR	x 18=	$
INDEP CLAIMS	4 - 3=	1	x 40=	$ 40 00		OR	x 80= $
[ ] MULTIPLE DEPENDENT CLAIM PRESENTED			+135=	$	OR	+270=	$
*If the difference in Col 1 is less than zero, enter "0" in Col. 2			TOTAL	$ 395 00	OR		$

[x] A check in the amount of $ 395.00 to cover the filing fee is enclosed

[x] Please charge any insufficiency of fee, or credit any excess, to Deposit Account No 50-0427.

MILDE, HOFFBERG & MACKLIN, LLP

By _____
Steven M. Hoffberg
Reg. No. 33,511

914-949-3100

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Date of Deposit October 18, 2000

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner of Patents and Trademarks, Washington, DC 20231.

By: _____

Applicant or Patentee: Corey Young, et al. Attorney's
Serial or Patent No.: Docket No.: MCP-207
Filed or Issued:
For: ENHANCED HUMAN COMPUTER USER INTERFACE SYSTEM FOR SEARCHING AND BROWSING DOCUMENTS

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) and 1.27 (b)) - INDEPENDENT INVENTOR

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled ENHANCED HUMAN COMPUTER USER INTERFACE SYSTEM FOR SEARCHING AND BROWSING DOCUMENTS described in

[x] the specification filed herewith
[ ] application serial no. _____ filed _____
[ ] patent no. _____ issued _____

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

[ ] no such person, concern, or organization
[x] persons, concerns organizations listed below*

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

FULL NAME MicroPatent, LLC
ADDRESS 250 Dodge Avenue, East Haven, Ct 06512
[ ] INDIVIDUAL [x] SMALL BUSINESS CONCERN [ ] NONPROFIT ORGANIZATION

FULL NAME
ADDRESS
[ ] INDIVIDUAL [ ] SMALL BUSINESS CONCERN [ ] NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Corey Young	David Kovanen	Joseph Fullmer
NAME OF INVENTOR	NAME OF INVENTOR	NAME OF INVENTOR
	David J. Kovanen 10/18/99	
Signature of Inventor	Signature of Inventor	Signature of Inventor
	10/18/99	
Date	Date	Date

Applicant or Patentee: Corey Young, et al. Attorney's
Serial or Patent No.: Docket No.: MCP-207
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[x] the specification filed herewith
[ ] application serial no. _____ filed _____
[ ] patent no. _____ issued _____

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

[ ] no such person, concern, or organization
[x] persons, concerns organizations listed below*

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

FULL NAME MicroPatent, LLC
ADDRESS 250 Dodge Avenue, East Haven, Ct 06512
[ ] INDIVIDUAL [x] SMALL BUSINESS CONCERN [ ] NONPROFIT ORGANIZATION

FULL NAME _____
ADDRESS _____
[ ] INDIVIDUAL [ ] SMALL BUSINESS CONCERN [ ] NONPROFIT ORGANIZATION

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Corey Young	David Kovanen	Joseph Fullmer
NAME OF INVENTOR	NAME OF INVENTOR	NAME OF INVENTOR
Corey Young		Joe Fullmer
Signature of Inventor	Signature of Inventor	Signature of Inventor
10/18/99		10-18-99
Date	Date	Date

Applicant or Patentee: Corey Young, et al. Attorney's
Serial or Patent No.: Docket No.: MCP-207
Filed or Issued:
Title: ENHANCED HUMAN COMPUTER USER INTERFACE SYSTEM FOR SEARCHING AND BROWSING DOCUMENTS

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9 (f) and 1.27(c) - SMALL BUSINESS CONCERN

I hereby declare that I am

[ ] the owner of the small business concern identified below:
[x] an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF SMALL BUSINESS CONCERN MicroPatent, LLC
ADDRESS OF SMALL BUSINESS CONCERN 250 Dodge Avenue
East Haven, CT 06512

I hereby declare that the above identified small business concern qualifies as a small business concern as defined in 13 CFR 121.12, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees to the United States Patent Office in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention described in:

[x] the specification filed herewith with title as listed above.
[ ] the application identified above.
[ ] the patent identified above.

If the rights held by the above identified small business concern are not exclusive, each individual, concern or organization having rights to the invention must file separate verified statements averring to their status as small entities, and no rights to the invention are held by any person other than the inventor, who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person made the invention, or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d), or a nonprofit organization under 37 CFR 1.9(e).

Each person concern or organization having any rights in the invention is listed below:
[ ] no such person concern or organization exists.
[x] each such person concern or organization is listed below.

Separate verified statements are required from each named person concern or organization having rights to the invention averring to their status as small entities (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING Steven Wolfson
TITLE OF PERSON OTHER THAN OWNER President
ADDRESS OF PERSON SIGNING 250 Dodge Avenue
East Haven, CT 06512

SIGNATURE Steven Wolfson DATE 10/18/99

MCP-207

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Young, et al.

Serial No.:

Filed:

For: ENHANCED HUMAN COMPUTER USER INTERFACE SYSTEM FOR SEARCHING AND BROWSING DOCUMENTS

October 18, 2000

Hon. Commissioner of Patents and
Trademarks
Washington, DC 20231

Sir:

PRELIMINARY AMENDMENT

Prior to examination on the merits, please amend the application as follows:

IN THE SPECIFICATION

Please insert on page 1, before line 1, --The present application claims priority from Provisional Patent Application Serial No. 60/160,243 filed on October 18, 1999.--

IN THE CLAIMS

Please cancel claims 1-3.

Please add new claims 5-18 as follows:

--5. A method for presenting document records to a user through a display interface, comprising the steps of:

(a) managing a plurality of data files with a host application, the host application supporting applet execution;

(b) selecting a data file from a plurality of data files;

(c) analyzing the data file for the presence of data of a first type and a second type;

(d) processing data of the first type through a first applet and data of the second type through a second applet;

(e) merging and formatting the processed first and second data within the host application; and

(f) displaying the merged and formatted processed first and second data.

6. The method according to claim 5, wherein the first data type is a graphics type and a second data type is a text data type.

7. The method according to claim 5, wherein the data file comprises a tagged format.

8. The method according to claim 5, wherein the first data type comprises a compressed format image.

9. The method according to claim 5, wherein the data file comprises:

a header portion containing an index portion:

a first data type located near a terminus of the data file at a starting location referenced by the index portion; and

a second data type located between the header and the first data type, having an end of file marker at its terminus.

10. The method according to claim 5, wherein the host application comprises a hypertext browser.

11. A data file format comprising:

a header portion containing an index portion;

a first data type located near a terminus of the data file at a starting location referenced by the index portion; and

a second data type located between the header and the first data type, having an end of file marker at its terminus.

12. The data file format according to claim 11, wherein said data file format is compatible with the Group-4 Tagged Image Format File (TIFF) specifications, said first data type corresponding to compressed image data.

13. The data file format according to claim 11, wherein said second data type comprises a text file contextually associated with said first data type.

14. A method of processing a data file having two different data types, comprising the steps of:

(a) processing the data file with a first applet, adapted for reading data of a first data type, to extract data of the first data type:

(b) processing the data file with a second applet, adapted for reading data of a second data type, to extract data of the second data type,

wherein the data file includes an index portion in a header pointing to the first data type, and the second data type resides between the header and the first data type, having an end of file marker at a terminus thereof.

15. The method according to claim 14, wherein the first applet skips past the end of file market based on the index portion, thereby circumventing processing of the second data type.

16. The method according to claim 14, wherein an object browser accesses the data file, and invokes the first and second applets for interpreting the composite data.

17. The method according to claim 14, wherein the first data type is a graphics type and a second data type is a text data type.

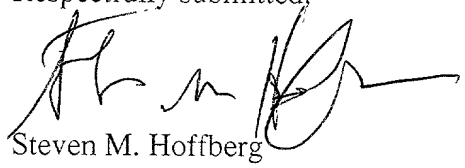
18. The method according to claim 14, wherein the header and first data type are compatible with the Group 4 Tagged Image Format File specifications.-

REMARKS

Claims 3-18 are in the application. Claims 1-3 have been replaced with claims 5-18.

An early action on the merits is respectfully solicited.

Respectfully submitted,



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ENHANCED HUMAN COMPUTER USER INTERFACE SYSTEM FOR SEARCHING AND BROWSING DOCUMENTS

FIELD OF THE INVENTION

The present invention relates to the field of improved document browsers, and more particularly to an improved human computer user interface system and method for searching, browsing and selecting documents stored in a massive database having a relatively consistent format including graphics, defined fields, and large variable sized text object portions. The present invention also relates to the field of data file structures, and more particularly to data files combining both text and graphics.

BACKGROUND OF THE INVENTION

It is well known in the art to provide graphic interfaces for analyzing database search results. Further, browser systems are known which format and display both text and graphics. For example, the Folio Infobase system, Jouve S.A. GTI, and Dataware engines, as well as commercially deployed systems from Lexis/Nexis, Westlaw, MicroPatent LLC (assignee hereof), as well as many other proprietary and Internet based systems, provide such capabilities.

Typically, the graphic content of such documents is small or insignificant in comparison to the text, or the text and graphics are stored as separate file types. Systems that store text and compressed graphics in a single file, with user defined and/or intelligent control over display formatting at the client are not generally found.

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Typically, the graphic content of such documents is small or insignificant in comparison to the text, or the text and graphics are stored as separate file types. Systems that store text and compressed graphics in a single file, with user defined and/or intelligent control over display formatting at the client are not generally found.

It is also known to allow selection of a group of listed documents for later processing. However, the prior art typically does not allow the user to classify listed documents into a plurality of different classifications for selective processing according to the categorization.

It is well known in the art to provide data files having text and graphic data content. For example, popular word processing formats, Adobe PDF®, and other file types integrate text and graphics.

These formats, however, are proprietary, meaning that other software packages are typically unable to process types of data stored in the files. Thus, the data embedded in such composite data files is typically unavailable or partially unavailable to thin applets designed to deal with various standard data formats.

One alternative is to provide the data in two separate files, leading to certain difficulties in maintaining the relation between the two portions of the file. Likewise, a wrapper may be provided to encompass the pair of files in a single resulting file, such as by using the known ZIP format. However, this entails use of an additional applet.

SUMMARY AND OBJECTS OF THE INVENTION

The present invention provides a system and method for receiving a set of files, each potentially including text and compressed graphics, reading the text portion including embedded tags, decoding the graphic portion, and displaying the text and graphics on a computer screen in accordance with user preferences.

This is accomplished by providing index pointers within the file to identify the start of the compressed graphic with respect to the beginning of the file, thereby permitting text data to be placed before the designated offset. This arrangement is compatible with the known Group-4 compressed tagged image format file (TIFF) file. Thus, a known TIFF graphic processing module can directly operate on the file without modification.

The index pointer resides at the beginning of the file; therefore, a standard-type text processing tool can easily process these files without substantial manipulation. Thus, both text and compressed graphic can be directly extracted from a single file using separate application modules without physical parsing or duplication.

The text may be further indexed to provide further functions, such as selectable sections, text searching, or other known functions. According to a preferred embodiment, the text is divided into paragraphs, wherein selected paragraphs are addressable by tag. A user selectable tab corresponds to the address tag, facilitating navigation through the text.

The preferred embodiment also preferably provides an intelligent display formatter to control the display of the text in conjunction with the image. Based on the size of the image, the width and/or height of the displayed text are controlled. Further, the scaling of displayed images may also be controlled.

The user interface is controlled by a host application, which also functions to manage a plurality of data files, for example providing a list for the user to select from, and allowing the user to sort and subselect from the list.

The present invention provides a system and method for receiving a set of records, displaying the contents of the record, including e.g., text and graphics, on a computer screen, and allowing the user to categorize the records into at least three classes for later selective processing.

This is accomplished by providing a record list on a graphic user interface, in which each record on the list may be individually selected, providing at least two categorization inputs from the user, providing an indicia in the record list to indicate a respective record classification, and providing means for selectively processing the records according to a respective classification thereof.

The present invention also provides a data file system and method, the data file potentially including text and compressed graphics, which can be read by applets which are capable of reading standard file types. Essentially, the file format includes an offset pointer at a predetermined location, such as in the header of the file, which points to a first data type. The

first data type is found in a latter portion of the file. The second data type resides after the header, and before the first data type, and ends with an end-of-file (EOF) marker. Therefore, the file may be read by a standard reader for the first data type, while the file may also be read by a reader for the second data type, possibly with an offset to avoid inclusion of the header information including the data pointer.

Thus, index pointers within the file identify the start of the compressed graphic with respect to the beginning of the file, thereby permitting text data to be placed before the designated offset. For example, the file type is a standard TIFF format, with the first data type being Group-4 compressed image and the second data type being ACSII or formatted text. (See, Adobe Corporation, TIFF 6.0 specification).

The index pointer resides at the beginning of the file; therefore, a standard-type text processing tool can easily process these files without substantial manipulation. Thus, both text and compressed graphic can be directly extracted from a single file using separate application modules without physical parsing or duplication.

The readers for the first and second data types may be controlled by a host application, which may also functions to manage a plurality of data files, for example providing a list for the user to select from, and allowing the user to sort and subselect from the list.

TIFF is an image file format. The largest possible TIFF file is 2^{32} bytes in length. A TIFF file begins with an 8-byte image file header that points to an image file directory (IFD). An image file directory contains information about the image, as well as pointers to the actual image data.

The TIFF specification provides for private fields and values. An organization might wish to store information meaningful to only that organization in a TIFF file. Tags numbered 32768 or higher, sometimes called private tags, are reserved for that purpose, and may be registered for exclusive use. TIFF tags in the "reusable" 65000-65535 range are available for use without registration, and are especially useful for closed environments. These tags, however, are not intended to facilitate a large data storage area within the TIFF file for storage of non-image data intended to be read by an application designed for a different file type.

The TIFF specification anticipates that new TIFF field types will appear. Therefore, one design criterion for readers is that they should skip over fields containing an unexpected field type. Each TIFF field has an associated Count. This means that all fields are actually one-dimensional arrays, even though most fields contain only a single value. For example, to store a complicated data structure in a single private field, an "undefined" type is established and the Count set to the number of bytes required to hold the data structure.

The Tagged Image File Format has a header which is defined as follows:

Offset	Length	Description
0	2	Byte Order: MM or II
2	2	"Version Number", this is always 42 for TIFF images
4	4	Pointer to the first IFD

The byte order refers to the endian used in the file, and is a two-letter ACSII record being either MM or II (4D4D hex or 4949 hex) referring to Motorola or Intel architecture. The version number 42 identifies the file as being a TIFF file. The IFD pointer is a 4 bytes value that is an offset from the start of the file and points to the first IFD that are explained below. Objects within the file are typically referenced with pointers.

Within the image file, directories are defined in the following manner:

Offset	Length	Description
0	2	Entry Count
2	12	Entry 0
14	12	Entry 1
.	.	.
.	.	.
n*12+2	12	Entry n
n*12+4	4	Pointer to subsequent IFD or 0000

These directory entries are 12 byte data records that store the relevant specifications on the image stored. The size, compression, colors used, a table of pointers showing the raster data

location and other parameters of the image. Before the IFD proper, a 2-byte value is provided indicating the number of IFD's present in the file. Then the IFD's are consecutively provided after the count.

Each IFD entry is formatted as follows:

Offset	Length	Description
0	2	Tag
2	2	Type of Data
4	4	Count Field
8	4	Data Pointer or Data Field

The first two bytes are a tag, identifying what the directory entry is about. The "Data Type" indicates the type of the data stored in this entry. The Count field specifies the number of values stored and not the number of bytes stored. The final 4 bytes store either a pointer to the location of the data, or, if the data can fit in 4 bytes, then the data itself is here.

It is therefore an object of the invention to provide a system and method for manipulating a record list, in which each record on the list may be individually selected, providing at least two distinct categorization inputs from the user, providing an indicia in the record list to indicate a respective record classification, and providing means for selectively processing the records according to a respective classification thereof.

It is also an object of the invention to provide a system and method for extracting data of a first type and a second type from a single file, comprising processing data of the first type through a

first applet and data of the second type through a second applet the file inherently designates separate data storage regions.

It is a further object of the invention to provide a system and method for presenting document records to a user through a display interface, comprising the steps of analyzing a data file for the presence of data of a first type and a second type, processing data of the first type through a first applet and data of the second type through a second applet, merging and formatting the processed first and second data with a host application, displaying the merged and formatted processed first and second data.

These and other objects will become apparent from a review of the drawings and detailed description of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will now be described with reference to the accompanying drawings, in which:

Fig. 1 is a schematic block diagram of a known image file;

Fig. 2 is a schematic block diagram of composite image and text file;

Fig. 3 is a diagram showing structured, fielded format of records and fields;

Fig. 4 is a view showing a graphic user interface screen layout with a left-side graphic according to a preferred embodiment;

Fig. 5 is a logical flow chart showing a screen format decision process;

Fig. 6 is a view showing a graphic user interface screen layout with a top side graphic according to a preferred embodiment;

Fig. 7 is a view of a dialog box for receiving user display format preferences;

Figs. 8 and 9 are two display screens of a preferred embodiment respectively before and after a PictureBox has been moved;

Fig. 10 shows a display screen of a preferred embodiment where the width of an image doesn't fill the horizontal space provided by the maximum percentage area setting;

Figs. 11 and 12 show display screens of a preferred embodiment with two different total display area sizes, wide and tall, respectively;

Fig. 13 shows a logical flow chart of the general process for positioning and sizing the controls;

Fig. 14 shows a logical flow chart that calculates the image size and orientation with relation to a text portion;

Fig. 15 shows a logical flow chart for automatically scrolling the text to a section corresponding to a user-selected section tab;

Fig. 16 shows a logical flow chart for automatically selecting the tab that corresponds to the section that is currently visible on the display; and

Fig. 17 shows a flow chart illustrating the detailed steps needed to calculate the image and text control coverage areas;

Figs. 18 and 19 show display screens of a preferred embodiment while viewing two different sections of text; and

Fig. 20 shows a list of patents with selections and exclusions.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The foregoing and other objects, features and advantages of the present invention will become more readily apparent to those skilled in the art to which the invention pertains upon reference to the following detailed description of one of the best modes for carrying out the invention, when considered in conjunction with the accompanying drawing in which preferred embodiments of the invention are shown and described by way of illustration, and not of limitation, wherein:

A preferred embodiment of the present invention provides a system and method for displaying a summary document from a document record on a graphic user interface (GUI) system. In general, the documents may be of a variety of types, however it is particularly preferred that they consist of a collection patents, defined by a collection criterion from the fullest of patent documents. As discussed below, the document file may have a particular format, and include image as well as text information.

OPERATING SYSTEM AND TOOLS

The present invention may be implemented in any suitable GUI-enabled operating system, such as Windows®. For purposes of illustrating the preferred embodiment, a solution using Windows® and Visual Basic® Professional 3.0 will be described.

FILE FORMAT

The file format containing the information to be displayed is also arbitrary. For purposes of illustrating the preferred embodiment, a Group-4 compressed TIFF image file will be used.

The TIFF specification allows for modifications to the image header to accommodate additional proprietary data. Because the preferred embodiment displays summary document information consisting of an image, text, or both, the TIFF specification lends itself well to the implementation of the preferred embodiment.

Figure 1 illustrates the typical layout of a TIFF file. The file starts with an Image File Header 101 that identifies it as being a TIFF file. The Image File Header also serves as a pointer to an Image File Directory 102, which contains information about the image as well as a pointer to the actual Image Data 103.

Figure 2 illustrates the layout of a modified TIFF file utilized by the preferred embodiment, which contains certain non-image ASCII text (Text) 104. The method for embedding the Text within the TIFF file is to rewrite the file, writing first the Image File Header, then writing the Text, then writing the Image File Directory and the Image Data. It is important to note that an End of File (EOF) character terminates the Text portion. This allows the preferred embodiment to use a standard text file loading procedure when loading the Text into memory. Thus, available text reader software typically ignores data after the EOF character.

The format of the Text may be a standard or proprietary format, preferably proprietary in the preferred embodiment. The preferred format consists of a structured, fielded format of records and fields as illustrated in Figure 3. A record of the text file is considered to be a series of ASCII characters 301 followed by a CR (ASCII 13) character 302, then a LF (ASCII 10) character 303. A record contains one or more fields. Fields 304 are a series of ASCII characters delimited by a

tab (ASCII 9) character 305. The first field 306 of a record is the record type. This is typically a word that best describes the piece of data contained in the record. For example, Figure 3 shows a record of type Description and of type Claim.

The remainder of the fields are typically referred to as the record text 207. There may be multiple fields contained in the record text. However, it is only important to note that there is a distinct first field that is the record type, and each additional field of the record thereafter is a part of the record text 207.

As noted above, the Text portion, e.g., the end of the record text 207, terminates with an EOF character, before the image data begins.

WINDOWS COMMON CONTROLS

The preferred embodiment utilizes a plurality of Windows® Visual Basic® (VBX) controls. A VBX control is a third party product that provides specific functionality to the utilizing application. The benefit of using VBX controls is that it simplifies the implementation of the preferred embodiment because the needed functionality is already developed by a third party company and encapsulated into the VBX controls.

VBX controls provide functionality using a common programming interface. Specifically, VBX controls provide Methods, Events, and Properties.

Methods are subroutines or functions utilized by the programmer that operate on the VBX controls.

Events are actions, such as clicking the mouse or pressing a key, and for which the programmer can write code to respond. Events can occur as a result of user action or program code, or they can be triggered by the graphic user interface (GUI) system.

Properties are named attributes of VBX controls. Properties define the VBX control's characteristics (such as size, color, screen location, etc.) or VBX control behaviors (whether it is enabled or visible, etc.). Most VBX controls provide a set of similar Properties for manipulating features common to each of the controls. Properties of the VBX controls that are used heavily by the preferred embodiment in the visual display of the summary document information are Top, Left, Height, Width, and Visible. These Properties define the top and left positioning of the control relative to the top of the program's window, the width and height of the control, and whether or not the control is visible to the user.

Some VBX controls are "encapsulating" controls. That is, they allow the program designer to place other VBX controls on top of them. In this case, the VBX controls placed on top of an encapsulating control then become a child of that control.

The VBX controls used in the implementation of the preferred embodiment will now be described in more detail.

For implementing the loading and display of the document image, which as discussed above is stored in the Group-4 compressed TIFF format, the Accusoft ImageGEAR (Gear) product is used. Gear is a VBX control that provides image display and manipulation functionality. Table 1 lists the Properties of Gear that were changed from their defaults at design time, in the implementation of the preferred embodiment. (The other initial properties remain unchanged).

Table 1 - Initial Properties of Gear

```
   BorderStyle = 0 - None
DisplayStretch = True
          Name = ImgDocument
       Visible = False
```

For implementing the display of the document text embedded in the TIFF file, the BennetTec AllText (AllText) product is used. AllText is a VBX control that provides functionality for the display of text in a formatted manner similar to that of the Microsoft Rich Text specification. Table 2 lists the Properties of AllText that were changed from their defaults at design time, in the implementation of the preferred embodiment.

Table 2 - Initial Properties of AllText

```
  BorderStyle = 0 - None
 DropFileMode = 1 - Drop Event
         F3ON = False
MouseHPointer = 13 - Finger
         Name = AtxDocument
   ScrollBarH = 1 - Invisible
```

For implementing the tab strip located below the display area, the FarPoint Tab Pro (TabPro) product is used. TabPro is a Windows® VBX control that provides functionality for a tab strip similar to the tabs as can be seen on a Property page dialog in Windows®. Table 3 lists the

Properties of TabPro that were changed from their defaults at design time, in the implementation of the preferred embodiment.

Table 3 - Initial Properties of TabPro

```
ActiveTabBold = False
  AlignTextH = 1 - Center
  AlignTextV = 1 - Center
  AllowScroll = 1 - Scroll (Show Whole)
DrawFocusRect = 1 - No
    FontBold = False
  MarginLeft = 150
  MarginRight = 150
        Name = TbsDocument
  Orientation = 2 - Bottom
   TabCaption = Abstract, Bibliographic, References,
                Cited By, Summary, Drawings, Description,
                Exemplary,Claims, Notes
    TabHeight = 220
 TabSeparator = -12
    TabShape = 1 - Slanted
     TabStop = False
ThreeDInnerWidth = 0
ThreeDInnerWidthActive = 0
     Visible = False
```

The TabCaption Property is unique in that its value depends on which tab on TabPro is selected at design time. Thus, the TabCaption Property may have several values at once. Because of this, in Table 3 all of the values used for the sample application utilizing the preferred embodiment are listed for the TabCaption Property. Also note that the TabCaption property for a particular tab can be set at runtime as well. The Tab Property provides an interface to specify which tab's Properties are to be changed. Thus, if a programmer at runtime wanted the TabCaption property changed for the third Tab, they would first set the Tab Property to three, then set the TabCaption property to the new value. Thus, the functionality of the system may be altered through a set-up routine run after distribution of the software.

Another VBX control may be used for implementing the encapsulating 3D frame (Panel) around the display area. Panel provides no real functionality to the preferred embodiment other than to serve both as a frame that encapsulates the other VBX controls used for the display of the summary document information, and as a cosmetic enhancement. Table 4 lists the properties of the Panel control that were changed from their defaults at design time, in the implementation of the preferred embodiment.

Table 4 - Initial Properties of Panel

```
BevelOuter = 1 - Inset
   Caption = <Null>
  FontBold = False
  FontSize = 24
      Name = PnDocument
   Visible = False
```

For implementing the sliding carrots located above and to the left of the display area, the Microsoft Picture Box (PictureBox) VBX control included with Visual Basic™ Professional 3.0 is used. A pre-created bitmap is loaded into this control at design time giving the control the appearance of being a small carrot. Table 5 lists the properties of PictureBox that were changed from their defaults at design time, in the implementation of the preferred embodiment.

Table 5 - Initial Properties of PictureBox

```
    AutoSize = True
   BackColor = &H00C0C0C0&
BorderStyle = 0 - None
        Name = SplitterVertical, SplitterHorizontal
     Visible = False
```

Because there are two PictureBox controls utilized in the preferred embodiment (one for each

carrot), two values for the Name property have been listed in Table 5. Each value corresponds to the instance of the PictureBox control to which it relates.

HOST APPLICATION

The preferred embodiment is not of itself an application program. The preferred embodiment represents software-defined functionality that can be utilized by an application program. Thus, hereafter the application program utilizing the preferred embodiment will be referred to as the host application (Host). Figure 4 provides a display screen of the host application.

The Host must provide a portion of its display window to the preferred embodiment. This is a rectangular area 401 that the preferred embodiment utilizes for the display of the summary document information. This provided area may or may not be sizeable. In the particular Host presented, the area provided to the preferred embodiment is sized in dependence on how the user sizes the Host window.

The area provided is made up of the previously defined VBX controls. Specifically, the Panel control 402 is used to cover the entire area provided. More specifically, the Panel control's Left and Top properties are defined as always being set to the left 403 and top 404 positions of the area provided. The Width and Height properties are defined as always being set to the width 405 and height 406 of the area provided. The encapsulated area provided by the Panel control 401 will hereafter be referred to as the total display area (TDA) utilized by the preferred embodiment for the display of the summary document information.

Encapsulated in the TDA are one instance of the Gear 407, AllText 408, and TabPro 409 VBX controls, and two instances 410a (Figure 4) and 410b (Figure 6) of the PictureBox VBX control (one for each carrot). It is important to note that when referring to the Top, Left, Height, and Width properties of these controls, or when referring to values associated with calculating the positioning of these controls within the encapsulated Panel, the Properties and values are relative to the Panel and not the application window.

Hereafter the term Gear will be used when referring to the document image display area or anything related to it.

Hereafter the term AllText will be used when referring to the document text display area or anything related to it.

Hereafter a carrot will be referred to as a PictureBox. When describing the functionality of a carrot, it will be in terms of the horizontal carrot 410. However, the functionality disclosed serves as the functionality used for implementing both carrots, although the orientation (vertical or horizontal) of each carrot is different and thus certain properties and values may be different in actual practice as anyone skilled in the art will recognize.

The method for choosing a document to be loaded into the preferred embodiment is arbitrary. The Host provides a list of documents 411 from which the user can select. When a document is selected 412, such as by clicking or double-clicking (i.e., generating an appropriate event in association with the document) with the GUI pointing device, the preferred embodiment loads it.

DISPLAYING DOCUMENT SUMMARY INFORMATION

The general process for displaying the summary document information is outlined in the flowchart in Figure 5.

Step 501 loads the text portion of the document specified by the Host into memory. The process of extracting the text from the TIFF file is a straightforward one and recognizable by one skilled in the art. However, it is important to note that the Image File Header 101 must be skipped, i.e., is not intended to be displayed as text. The easiest way to do this is to move the file pointer to byte position 11 in the file, because the Image File Header is always 10 bytes long. Once the file pointer has been positioned at byte 11, the file can be loaded and stored into memory using a known common text file loading procedure, noting the existence of an EOF character at the end of the Text and just before the image data. In the same manner, multiple text files may be addressed by noting their offset from the first byte of the file and initializing the file pointer appropriately. In this case, an EOF is provided after each text segment. All text segments preferably precede the compressed image data. Where the file organization is complex, the first record starting at byte 11 may be an index, with pointers (and possibly descriptive information) stored defining the respective offsets. Managing this index and multiple text records, of course, requires additional logic, which is not further described herein, but implementable without the exercise of undue experimentation by one of ordinary skill in the art. This record management scheme may be implemented as a VBX control or within the Host.

It is also noted that, in the event of sequential records (as opposed to randomly accessible records), the existence and/or nature of a subsequent record may be defined within each Text portion, thus eliminating the need for the above-described index.

The Text is loaded first because it contains additional information helpful to the preferred embodiment in determining if an image is available. More specifically, there exists a record of type Cropped that defines whether or not an image is available. If the Cropped record text contains "Yes" then there exists an image. If it contains "No" then there does not exist an image. Note that the Cropped record is ignored when determining if text information is available. Therefore, the present preferred embodiment provides a common TIFF format file that potentially contains no image information. While TIFF is generally intended for image data, the format provides sufficient flexibility for use as a text file format.

Step 502 checks to see if there exists text information for the document. If no text information in addition to the Cropped record was loaded from the document in Step 501, then the preferred embodiment moves to Step 503. Otherwise, the preferred embodiment moves to Step 505.

Steps 503 checks to see if there exists an image for the document by checking the Cropped record text contents as previously described. If an image does exist, the preferred embodiment moves to Step 504. Otherwise, the preferred embodiment does not display any document information, as none is available.

Records which do not contain any document information, while seemingly useless in the preferred embodiment, may still have utility, since they may contain other data types, including executable code, accounting information, e-mail, etc., which may be handled by the host outside of the preferred embodiment of the human user computer interface. Advantageously, the system employs a single file type, TIFF, for communication with the Host. Of course, the Host need not be limited to reading or manipulating this file format.

Step 504 displays only an image. To do this, the preferred embodiment sets AllText's Visible Property to False and sets Gear's Width and Height Properties to the width and height of the TDA, respectively. This has the effect of utilizing the entire TDA for the display of the image. The image is loaded into the Gear control using the LoadImage Property of the control.

Step 505 checks to see if there exists an image for the document by checking the cropped record text contents as previously described. If an image does exist, the preferred embodiment moves to Step 508. Otherwise, the preferred embodiment moves to Step 506.

Step 506 checks to see if there exists text information for the document. If no text information in addition to the Cropped record was loaded for the document in Step 501, then the preferred embodiment does not display any document information, as none is available. Otherwise, the preferred embodiment moves to Step 507.

Step 507 displays only the text. To do this, the preferred embodiment sets Gear's Visible Property to False and sets AllText's Width and Height Properties to the width and height of the

TDA, respectively. This has the effect of utilizing the entire TDA for the display of the text. The text is loaded into AllText by the Host.

Step 508 calculates and positions the VBX controls on the TDA. The process for doing this is shown in the flowchart of Figure 13 and will be explained in detail later herein.

Step 509 loads the image into Gear and the text into AllText using the same methods as described in Steps 504 and 507, with the one exception that Gear and AllText do not fill the entire area as described, but instead remain in their positions as determined by Step 508. The Visible Property of Gear and AllText is set to True.

USER SPECIFIED SETTINGS

The user-specified settings are maintained using internal variables specific to the preferred embodiment. An internal variable is a term recognized by those skilled in the art. Table 6 shows the internal variable names used and their corresponding purposes. Note that these variable names will be used throughout the remainder of the description of the preferred embodiment for equations and illustrative purposes.

Table 6 - Internal Variables for User-Specified Settings

ImagePosition	The position of the document image in relation to the text. This is a mutually exclusive setting with the value being one of the three possible constant values:
ImagePositionAuto	Specifies that the image position in relation to the text should be auto-calculated based on the image width and height and the TDA width and height.

```
ImagePositionAbove
            Specifies that the image should be positioned above
            the text.

ImagePositionLeft
            Specifies that the image should be positioned to the
            left of the text.

SplitterPosVertical
            The maximum TDA space the drawing is allowed to
            occupy when positioned above the text.  This is a
            value that is a percentage of the TDA height and is
            clamped to the range [10, 50] (e.g., 20 would be 20%)
            where the range is an integer value.

SplitterPosHorizontal
            The maximum TDA space the drawing is allowed to
            occupy when positioned to the left of the text.  This
            is a value that is a percentage of the TDA width and
            is clamped to the range [10, 50] (e.g., 20 would be
            20%) where the range is an integer value.
```

The preferred embodiment allows the user to explicitly specify whether they want the document image oriented above the text as illustrated in Figure 6, to the left of the text as illustrated in Figure 4, or whether the document image orientation should be auto-calculated. This user-specified setting will be referred to as the Orientation setting hereafter and is defined by the variable ImagePosition described in Table 6. In addition, when referring to the orientation of the image hereafter, it is to be assumed to be in relation to the text (above the text or to the left of the text).

When the Orientation setting is set to auto-calculate, the preferred embodiment orients the image based on the TDA height 405 and width 406, image height and width, and a setting to be described later that defines the maximum percentage of area 413 of the TDA the image is allowed to use. The auto-calculation setting allows the preferred embodiment to find an optimal orientation for the image (e.g., display the image to the left of the text in the case where the Host window is sized to be very wide). This allows the user to see as much information as possible.

The preferred embodiment allows the user to specify the maximum percentage of area of the TDA the image is allowed to use. Because there are two possible orientations for the image as illustrated in Figures 6 and 4, the user is allowed to specify this percentage separately for each orientation as defined by the variables SplitterPosVertical and SplitterPosHorizontal as described in Table 6. These two settings will be referred to as Maximum Percentage settings hereafter.

The Host allows the user to specify these settings using a settings dialog. Figure 7 shows a display screen of the settings dialog. Here it can be seen that ImageOrientation can be set using 701, SplitterPosVertical by 702, and SplitterPosHorizontal by 703. When the user presses the OK button 704, the setting values specified by the user in the dialog are recorded into the internal variables shown in Table 6. The values of the settings may be stored in non-volatile memory, such in a file on a computer hard disk. This can be done using any generalized saving method understood by anyone educated in the art. These values may be stored, for example, in a so-called ".INI" file.

The preferred embodiment also inherently provides the ability to change the SplitterPosVertical and SplitterPosHorizontal settings using the two carrots located on the top and left edges of the TDA. The carrots are implemented using the PictureBox control. As previously described, in the preferred embodiment a pre-created bitmap is loaded into PictureBox at application design time. This provides the visual appearance of the carrot.

The preferred embodiment allows the user to move PictureBox using the GUI mouse interface mechanism. As previously described, a typical GUI provides feedback to an application in the form of an Event whenever the user performs different actions using the various input devices, such as a mouse. The Events that the preferred embodiment traps for PictureBox manipulation are defined in Table 7.

Table 7 - Events Trapped by the Preferred Embodiment for Manipulating the PictureBoxes

MouseDown	The event sent by the GUI when the mouse button is pressed by the user.
MouseMove	The event sent by the GUI when the mouse is moved.
MouseUp	The event sent by the GUI when the mouse button is depressed by the user.

In order to track when PictureBox is being dragged and how far it has been dragged, the preferred embodiment utilizes the variables listed in Table 8.

Table 8 - Internal Variables Used for Moving PictureBoxes

SplitterDragging	A bit flag that is set to True when the user has initiated dragging of the PictureBox. The bit flag is maintained True until the user stops dragging the PictureBox
SplitterMousePos	Specifies the position of the mouse on the screen When dragging is initiated.
MousePos	Specifies the position of the mouse on the screen when a mouse-related event is triggered by the GUI.

When the PictureBox control receives the MouseDown event (the user has pressed the mouse button down while the mouse cursor is over the PictureBox), the SplitterDragging flag is set to

True. This means that the user has initiated a drag of the PictureBox control with the mouse. The SplitterMousePos variable is set to MousePos.

When the mouse is moved, the PictureBox control receives the MouseMove event. When this event is received, if SplitterDragging is True, the preferred embodiment knows that the user has moved the mouse while holding the mouse button down over the PictureBox. In order to simulate a dragging movement of the PictureBox, the preferred embodiment calculates how far the PictureBox must be moved in order to correlate with how far the user has moved the mouse. This is done using the pseudo-code in Listing 1. Note that the distance to move is clamped to the same range as the SplitterPosVertical and SplitterPosHorizontal settings.

Listing 1

```
If SplitterDragging Then
  MoveDistance = PictureBox.Left + MousePos.X - SplitterMousePos.X
  If MoveDistance > (TDAWidth * 0.75) Then
    MoveDistance = TDAWidth * 0.75
  ElseIf MoveDistance < (TDAWidth * 0.10) Then
    MoveDistance = TDAWidth * 0.10
    End If
  SplitterPosHorizontal = (PictureBox.Left / TDAWidth) * 100
  PictureBox.Left = MoveDistance
  ResizeForm ' Causes summary document information to be redisplayed.
  End If
```

If the MouseMove event is received while SplitterDragging is True, the positions and sizes of the controls on the TDA are recalculated by forcing a call to resize the Host window. Because the process of calculating the positions and sizes of the controls on the TDA are relatively non-complex, the user does not perceives jittering or other artifacts typically associated with complex operations. In addition, the user sees a visual difference in the amount of space taken up by the

image and text. The process of positioning and sizing the controls on the TDA will be explained in further detail later on in the description of the preferred embodiment.

When the PictureBox control receives the MouseUp event (the user has depressed the mouse button while the mouse cursor is over the PictureBox), the SplitterDragging flag is set to False.

The process just described of trapping the MouseDown, MouseMove, and MouseUp events to simulate dragging of the PictureBox is a process understood by anyone educated in the art. Hereafter we will refer to this as a dragging process.

Whenever the PictureBox control is dragged, the SplitterPosVertical and SplitterPosHorizontal settings are adjusted accordingly. For example, if the horizontal PictureBox is dragged to within 20% of the left edge of the TDA, then a value of 20 is placed in the SplitterPosHorizontal setting.

Figures 8 and 9 are two display screens of the preferred embodiment before and after the PictureBox 801 has been moved. It can be seen that the maximum percentage area 802 that the image is permitted to occupy has changed, and thus the image is now smaller than it was before.

Figure 10 shows a display screen of the preferred embodiment where the image width 1001 doesn't fill the horizontal space provided by the maximum percentage area 1002 setting. It can be seen that the text area expands to fill the area 1003 unused by the image. This illustrates that the setting is a maximum percentage area that the image is permitted to occupy, not a specific defined percentage area that the image will occupy.

CALCULATION OF CONTROL POSITIONS AND SIZES

There are three cases in which the position and size of the controls on the TDA should be recalculated.

First, whenever a new document is loaded the positions and sizes must be recalculated. This is because the image width and height parameters may be different from document to document. Figures 4 and 6 show display screens of the preferred embodiment displaying two different documents, each document having a unique image size. Note that the TDA size is the same for each display screen. The orientation of the image in relation to the text is different for each document, thus showing how the preferred embodiment made a different decision because of different image sizes.

Second, when the TDA size has changed the positions and sizes must be recalculated because the preferred embodiment may find a more optimal orientation and size for the image in relation to the text. Figures 11 and 12 show display screens of the preferred embodiment with two different TDA sizes, Figure 11 showing the preferred embodiment with a TDA that is wide and small, and Figure 12 showing a TDA that is tall. These figures illustrate how the preferred embodiment may make a different decision on image orientation based on TDA size parameters.

Third, when the user-specified settings have been changed, the positions and sizes must be recalculated because the user-specified settings directly effect the amount of space the image is

allowed to cover, as well as the orientation of the image in relation to the text. TDA settings will be described in more detail later in this description.

The general process for positioning and sizing the controls is shown in the flowchart in Figure 13.

Step 1301 determines the width and height of the TDA. This should not be confused with Panel's Width and Height Properties. The Panel control has a slight 3D edge that needs to be compensated for in the calculation of the TDA, which can be performed using simple formulas.

Step 1302 calculates Gear's size and orientation with relation to AllText. This process is illustrated in the flowchart contained in Figure 14 and will be described in more detail later on in this description.

The specific purpose of step 1302 is to calculate the variables ImageHeight, ImageWidth, and ImageOrientation. The use of these variables is described in Table 9.

Table 9 - Internal Variables Used for Calculating Control Positions

ImageOrientation	The position of the image in relation to the text. This is a mutually exclusive setting with the value being one of the three previously described constant values DrawingPositionAuto, DrawingPositionAbove, and DrawingPositionLeft.
ImageHeight	The final height for Gear.
ImageWidth	The final width for Gear.
MaxWidth	The maximum width the image is allowed to occupy in the TDA. This does not mean that the final image width will be MaxWidth, but only that the final

```
                image width cannot be more than MaxWidth.

        MaxHeight - The maximum height the image is allowed to occupy in
                    the TDA.  This does not mean that the final image
                    height will be MaxHeight, but only that the final
                    image height cannot be more than MaxHeight.
```

Step 1303 sets the position and size of TabPro. The TabPro position and size are set according to Table 10. This serves the purpose of sizing TabPro such that it encapsulates the entire TDA. It is important to note that TabPro is encapsulated by Panel (it is a child of Panel). However, even though TabPro is expanded to fill the entire TDA, it does not encapsulate any other controls (e.g., Gear, AllText, etc.).

Table 10 - Position and Size of TabPro

```
  TabPro.Left = 30
   TabPro.Top = 30
 TabPro.Width = TDAWidth - 50
TabPro.Height = TDAHeight - 50
```

Step 1304 sets the position and size of AllText. The position and size of AllText is dependent on the value of the ImageOrientation variable. If it is determined that the image should be oriented above the text, the AllText position and size are set according to Table 11. If it is determined that the image should be oriented to the left of the text, the AllText position and size are set according to Table 12.

Table 11 - Position and Size of AllText for Top Orientation

```
  AllText.Left = DocumentEdgeWidth
   AllText.Top = ImageHeight + DocumentEdgeWidth
 AllText.Width = DocumentWidth + 40
AllText.Height = DocumentHeight - ImageHeight + (DocumentEdgeWidth * 2)
```

Table 12 - Position and Size of AllText for Left Orientation

```
  AllText.Left = ImageWidth + DocumentEdgeWidth
   AllText.Top = DocumentEdgeWidth
 AllText.Width = DocumentWidth - ImageWidth + DocumentEdgeWidth + 60
AllText.Height = DocumentHeight
```

Step 1305 sets the position and size of Gear. As with AllText, the position and size of Gear are dependent on the value of the ImageOrientation variable. If it is determined that the image should be oriented above the text, the Gear position and size are set according to Table 13. If it is determined that the image should be oriented to the left of the text, the AllText position and size are set according to Table 14. It can be appreciated that Gear is always centered horizontally or vertically, depending on its orientation with respect to AllText.

Table 13 - Position and Size of Gear for Top Orientation

```
  Gear.Left = (DocumentWidth / 2) - (Gear.Width / 2)
   Gear.Top = DocumentEdgeWidth
 Gear.Width = ImageWidth
Gear.Height = ImageHeight
```

Table 14 - Position and Size of Gear for Left Orientation

```
  Gear.Left = DocumentEdgeWidth
   Gear.Top = (DocumentHeight / 2) - (Gear.Height / 2)
 Gear.Width = ImageWidth
Gear.Height = ImageHeight
```

Step 1306 sets the position of the two instances of PictureBox. The visibility of each PictureBox is determined by the ImageOrientation variable. To help avoid confusion to the user, the preferred embodiment only allows the user to adjust one PictureBox at a time. If the image is oriented to the top of the text, then the vertical PictureBox is made visible and the horizontal made non-visible. If the image is orientated to the left of the text, then the horizontal PictureBox is made visible and the vertical made non-visible. The positions of each PictureBox are set

according to Table 15. Note that only the Left Property is set for the vertical PictureBox, and only the Top Property is set for the horizontal PictureBox.

Table 15 - Position and Size of PictureBoxes

```
PictureBox.Left = DocumentWidth  * DocSplitterPosVert  * 0.01
 PictureBox.Top = DocumentHeight * DocSplitterPosHoriz * 0.01
```

It is noted that the screen display layout for the text and image may differ from the printer output. Preferably, a separate set of print preferences is provided to define a text font, layout, image size, and other properties of a printed record. These preferences may also be persistently stored. According to a preferred embodiment, an intelligent layout feature ensures that most records fit on a single printed page.

CALCULATION OF IMAGE SIZE

The positioning of the Gear, AllText, and PictureBox controls is dependent upon user selected TDA settings, the area of the TDA, and the document being displayed.

When calculating the position and sizes of the Gear and AllText controls, the preferred embodiment takes into consideration the previously describes settings, specifically, the orientation of the image in relation to the text, and the maximum space the image is allowed to occupy. Figure 17 shows a flow chart illustrating the detailed steps needed to calculate the Gear and AllText control coverage areas.

The first step in calculating the Gear and AllText coverage areas is to load from memory or hard drive the user's orientation preference (1701) and the user's maximum image coverage percentages (1702). Methods for specifying this information have already been described.

Once this information has been loaded, the preferred embodiment determines where the Gear should be located in relation to the AllText (1703). As previously described, the preferred embodiment allows the user to specify one of three orientations for the image relative to the text: to the left of, above, and automatically. Regardless of which orientation has been specified, the preferred embodiment utilizes several variables that are set to values that correspond with the orientation specified. These variables are shown in Table 9

If the user has specified that the image be explicitly located to the left of the text in all cases (perhaps they have sized the Host window to be wide and short), then the preferred embodiment moves to step (1705). In this step the orientation variables are set to the values shown in Table 10.

If the user has specified that the image be explicitly located above the text in all cases (perhaps they have sized the Host window to be narrow and tall), then the preferred embodiment moves to step (1706). In this step the orientation variables are set to the values shown in Table 11. The maximum width of the image is defined as being a percentage of the width of the TDA as specified by the position of the vertical carrot. The maximum height of the image is defined as being the height of the TDA because it will be located to the left of the text and thus is allowed to fit as much of the vertical area as is available.

However, if the user has specified that the image be orientated relative to the text automatically, then the preferred embodiment moves to step (1704) to calculate an optimal orientation for the image. An optimal orientation is defined as being the preferred orientation (above or to the left of the text) that would allow the user to see the most information. The maximum width of the image is defined as being the width of the TDA because it will be located above the text and thus is allowed to fit as much of the horizontal area as is available. The maximum height is defined as being a percentage of the height of the TDA as specified by the position of the horizontal carrot.

Whether the user has specified that the image be orientated above or to the left of the text, it is important to remember that the MaxWidth and MaxHeight values are not necessarily final values for the image. They are values representing the maximum area that the image is allowed to cover. In practice, the image will cover much less area.

If the user has specified they want auto-orientation, then the preferred embodiment must calculate whether either left or top orientation would be preferable, based on image width and height, and total document summary coverage area width and height (1704). Applying a simple ratio calculation, as understood by those skilled in the art, accomplishes this.

If the ratio of the image's width and height is greater than the ratio of the TDA's width and height, then the preferred embodiment moves onto the step of calculating the maximum image

coverage values needed to calculate the final image dimensions based on a top orientation (1706). The orientation variables will be set to the values shown in Table 10.

Otherwise, the preferred embodiment moves onto the step of calculating the maximum image coverage values needed to calculate the final image dimensions based on a left orientation (1705). The orientation variables will be set to the values shown in Table 9.

The pseudo-code for steps (1703), (1704), (1705), and (1706) is shown in Listing 2.

Listing 2

```
Sub SetOrientation (DrawingOrientation, MaxWidth, MaxHeight)
  If ImagePosition = ImagePositionLeft
    SetLeft (DrawingOrientation, MaxWidth, MaxHeight)
  If ImagePosition = ImagePositionAbove
    SetAbove(DrawingOrientation, MaxWidth, MaxHeight)
  If ImagePosition = ImagePositionAuto
    If DrawingWidth > DrawingHeight * (TDAWidth / TDAHeight) Then
      SetAbove(DrawingOrientation, MaxWidth, MaxHeight)
    Else
      SetLeft(DrawingOrientation, MaxWidth, MaxHeight)
      End If
    End If
  End Sub

Sub SetLeft (DrawingOrientation, MaxWidth, MaxHeight)
  DrawingOrientation = DrawingPositionLeft
  MaxWidth = TDAWidth * (SplitterPosVertical * 0.01)
  MaxHeight = TDAHeight
  End Sub

Sub SetAbove (DrawingOrientation, MaxWidth, MaxHeight)
  DrawingOrientation = DrawingPositionAbove
  MaxWidth = TDAWidth
  MaxHeight = TDAHeight * (SplitterPosHorizontal * 0.01)
  End Sub
```

Regardless of which of the three orientations the user has specified, once MaxWidth and MaxHeight have been specified, the preferred embodiment then calculates the final image

dimensions (1707). This calculation is based on the need to fit the image into the coverage area available to the image as specified in the MaxWidth and MaxHeight variables. This allows the preferred embodiment to force the image to fit within the specified image coverage area without exceeding either the bounds of the user specified maximum percentage, nor the bounds of the TDA itself.

Listing 3 shows the pseudo-code for calculating the final image area dimensions. Once the final image dimensions have been determined, they are stored in memory for use when it becomes necessary to draw the image and text onto the form or dialog.

Listing 3

```
Width = ImageWidth / MaxWidth
Height = ImageHeight / MaxHeight

If (ImageWidth / Height) <= MaxWidth Then
  Divisor = Width
Else
  Divisor = Height

AreaWidth = Width / Divisor
AreaHeight = Height / Divisor
```

The AreaWidth and AreaHeight values hold the final values that will later be assigned to the Gear's Height and Width Properties, respectively. The process of determining whether or not the preferred embodiment will need to use these values will be discussed in further detail herein-below.

When the Host starts, the Visible property of the Gear, AllText, and PictureBox controls is set to False. This provides the user with a visual appearance that there is no document loaded.

SECTION HEADINGS AND TABS

The preferred embodiment recognizes the record type and uses it to generate section headings and tabs. As the document text is loaded into the AllText control, each new record type that becomes available is added to the AllText as a heading and to the TabPro. Listing 4 shows the pseudo code used for this operation.

Listing 4

```
LoadText
PrevRecordType = Null
For Each Record
  If RecordType <> PrevRecordType Then
    AddHeading RecordType
    PrevRecordType = RecordType
    AddText RecordText

AddHeading RecordType
  TabPro.Tab = SectionIndex
  TabPro.TabTag = SectionIndex
  TabPro.TabState = TabEnable
  SectionRange(SectionIndex) = AllText.CurPar=09
  AllText.SelLength = 1
  AllText.NTag = SectionIndex
  SectionIndex = SectionIndex + 1=09
```

In this operation, it is important to note that there will exist one tab on the TabPro for each section that is loaded.

The variable SectionIndex keeps track of which section is currently being loaded. As the sections are loaded into the AllText control, the particular associated Tab of the TabPro is displayed and updated with the needed information about the current section.

The SectionRange variable is set to the current cursor location in the AllText control as it is being loaded, and the NTag Property of the particular tab of the TabPro is set to the current

SectionIndex. This allows the preferred embodiment to utilize this information at a later time to synchronize the tabs with the displayed text.

Once the document has been loaded and displayed, the user can use the tabs to easily locate a particular section of text they want to view. Figures 17 and 18 show display screens of the preferred embodiment while viewing two different sections of text.

Likewise, if the user decides to scroll the text using the scrollbar natively supplied by the AllText, as the user scrolls through the document sections, the corresponding tab will automatically be highlighted. This provides the user with a visual indication of what section they are in. The implementation details of this functionality with regard to the preferred embodiment will be explained hereafter.

If the user clicks on a section tab, the preferred embodiment must automatically scroll the text in the AllText to the corresponding section. This is done by trapping the TabPageShown event of the TabPro control. Figure 15 is a flow chart that illustrates this process, and listing 5 shows the code used to accomplish this in the preferred embodiment.

Listing 5

```
Sub TabPro_TabPageShown (ActiveTab As Integer, ActivePage As Integer)
  Dim X As Long
  Dim Y As Long
  Dim Result As Long

  If SectionScrollUpdate Then
    SectionScrollUpdate = False
    Exit Sub
    End If

  AllText.WriteProtect = ATX_PROTECT_SCREEN
  AllText.Select = False
  AllText.SelStart = 0

  TabPro.Tab = ActiveTab
  Result = Find_NTag(AllText, Val(TabPro.TabTag), 1)
  Result = ATX_CurToXY(AllText, AllText.CurPar, AllText.CurChar, X, Y)

  AllText.Select = 0
  AllText.ScrollVert = Y
  AllText.WriteProtect = ATX_PROTECT_CHANGES
  End Sub
```

The preferred embodiment must first detect a tab selection event (1501). The paragraph corresponding to the selected tab is then determined (1502). The AllText control then updates the topmost paragraph to that which corresponds to the tab selection (1503).

If the user scrolls using the scrollbar inherently provided by the AllText control, then the preferred embodiment must select the tab that corresponds with the section that is currently visible on the display. Figure 16 is a flow chart that illustrates this process, and Listing 6 provides the code used in the preferred embodiment to accomplish this task.

Listing 6

```
Sub AllText_AtxVScrollClick (ScrollVert As Long)
  Dim Index As Integer
5
  Dim X As Long
  Dim Y As Long
  Dim X1 As Long
  Dim Y1 As Long
10
  Dim Result As Integer
  Dim Paragraph As Long
  Dim C As Integer

15  Dim Check As Integer
  Dim Continue As Integer

  Y = ScrollVert
  Result = ATX_XYToCur(AllText, X, Y, Paragraph, C)
20  Result = ATX_CurToXY(AllText, Paragraph, C, X1, Y1)

  For Index = 0 To (SectionCount - 1)
    If (Paragraph >= SectionRange(Index)) And _
       (Paragraph < SectionRange(Index + 1)) Then
25    If SectionRange(Index + 1) = 999 Then
        Continue = True
        For Check = (Index + 1) To SectionCount
          If SectionRange(Check) <> 999 Then
            If Paragraph >= SectionRange(Check) Then
30            Continue = False
              End If
            Exit For
            End If
          Next
35      Else
        Continue = True
        End If
      If Continue Then
        If Index = 0 Then
40        ScrollTab 0
        Else
          ScrollTab Index
          End If
        Exit Sub
45      End If
      End If
    Next
  End Sub

50  Sub ScrollTab (Index As Integer)
    If TabPro.ActiveTab <> Index Then
      SectionScrollUpdate = True
      TabPro.ActiveTab = Index
      End If
55  End Sub
```

First, the preferred embodiment must determine which paragraph of AllText is the topmost visible (1601). The AllText control provides an interface for doing this.

Second, the preferred embodiment must iterate through each SectionRange to determine if the current paragraph falls within that range (1602). The SectionRange values were assigned during the document text loading phase and is described above.

Once it is determined in which SectionRange the current paragraph falls, the preferred embodiment then uses the associated SectionIndex to display the correct tab (1603).

SELECT AND EXCLUDE FEATURE

Another feature of the preferred embodiment is a document characterization input, in the form of a button bar 417, 418, (which may also have hot-key equivalents). In the preferred embodiment, a list of documents 411 meeting certain user-defined exclusionary criteria is provided in the left-hand pane of the display. These criteria (not shown in the Figures) include, for example, patent classification, application or issuance date, Boolean text search criteria, or the like. In the case of patent documents, the pane provides a listing of each document including patent number and title. To the left of the patent number, is a column 419 showing an indicia, such as a green check mark or red cross mark. These indicia correspond, for example, to a check box 417 for "select" and a check box 418 for "exclude", respectively. The default is "undecided" (no indicia), which may have its own check box, or be controlled based on the absence of other active check boxes.

It is understood that the criteria need not be "select" or "exclude", and may in fact be other predefined or user defined criteria, as a means for segregating the document list during review by the user.

This segregation would serve as a means of "binning" the patents into categories that are meaningful to the user. For example, categories might be arbitrarily established for patents to order, patents held by competitors, patents that are marginally interesting, and patents owned or licensed by the inventor.

Further, the user may seek to categorize the patents into various mutually exclusive or overlapping relevant topics. Thus, in this case, the user may be provided with a user defined categorization tool, which may also have a set of rules associated with it. These categories may each be represented by an iconic button on a button bar, for ease of selection.

Once the patents have been selected or excluded (or binned,) the bins can be combined and manipulated using Boolean logic. A union of bins would be obtained by combining the patents in two or more bins. An intersection would be possible by logically AND-ing the bins (looking only for duplicates) in the event that a patent could be in more than one bin at a time. New bins could thereby be created from existing ones, or patents could be added to existing bins accordingly. For example, the bottom of the preferred display screen shown in Fig. 20 provides individually selectable display options 414, 415, 416 for the various categories of patents, including the excluded, selected, and undecided, respectively.

The process for performing Boolean logic on groups of items that are uniquely identified such as by a patent number is well known in the art of patent searching and programming.

A set of functions may then be applied based on the user-selected criteria, such as Print, Order (hardcopy), Save (as a list for later review or manipulation), or other function, by the Host.

In the case of a patent document review, the predefined select, exclude and undecided criteria are preferred.

The foregoing description of the preferred embodiment of the invention has been presented for purposes of illustration and description and is not intended to be exhaustive or to limit the invention to the precise forms disclosed, since many modifications and variations are possible in light of the above teachings. Some modifications have been described in the specifications, and others may occur to those skilled in the art to which the invention pertains. Therefore, the scope of the invention is to be defined solely by the claims that follow.

CLAIMS

What is claimed is:

1. A method for presenting document records to a user through a display interface, comprising the steps of:

(a) selecting a data file from a plurality of data files;

(b) analyzing the data file for the presence of data of a first type and a second type;

(c) processing data of the first type through a first applet and data of the second type through a second applet;

(d) merging and formatting the processed first and second data with a host application;

(e) displaying the merged and formatted processed first and second data; and

(f) managing a plurality of data files with the host application.

2. A data file format comprising:

a header portion containing an index portion;

a first data type located near a terminus of the data file at a starting location referenced by the index portion; and

a second data type located between the header and the first data type, having an end of file marker at its terminus.

3. A method of processing a data file having two different data types, comprising the steps of:

(a) processing the data file with a first applet, adapted for reading data of a first data type, to extract data of the first data type;

(b) processing the data file with a second applet, adapted for reading data of a second data type, to extract data of the second data type,

wherein the data file includes an index portion in a header pointing to the first data type, and the second data type resides between the header and the first data type, having an end of file marker at a terminus thereof.

4. A method for manipulating a record list, in which each record on the list may be individually selected, comprising providing at least two distinct categorization inputs from the user, providing an indicia in the record list to indicate a respective record classification, and providing means for selectively processing the records according to a respective classification thereof.

ABSTRACT

A system and method for presenting document records to a user through a display interface, comprising means for processing data of the first type through a first applet and data of the second type through a second applet and separately extracting data of the two different types using the separate applets. The user interface provides means for selecting a data file from a plurality of data files, displaying the merged and formatted processed first and second data, and managing a plurality of data files with the host application. Each record on the list may be individually selected, comprising providing at least two distinct categorization inputs from the user, providing an indicia in the record list to indicate a respective record classification, and providing means for selectively processing the records according to a respective classification thereof. The data file employs a standard image format file with an embedded index pointer to segregate two data types. A first data type, preferably an image, is referenced by the index pointer and is located near the terminus of the file. A second data type, for example text, appears immediately after the file header which includes the index pointer, and preferably terminates with an end of file marker. Thus, the single file may be read by both a standard image file reader, and a standard text reader, without parsing or segregation. The two data types are preferably text and image data, and the data file is preferably a tagged image format file (TIFF) file with Group-4 image compression.

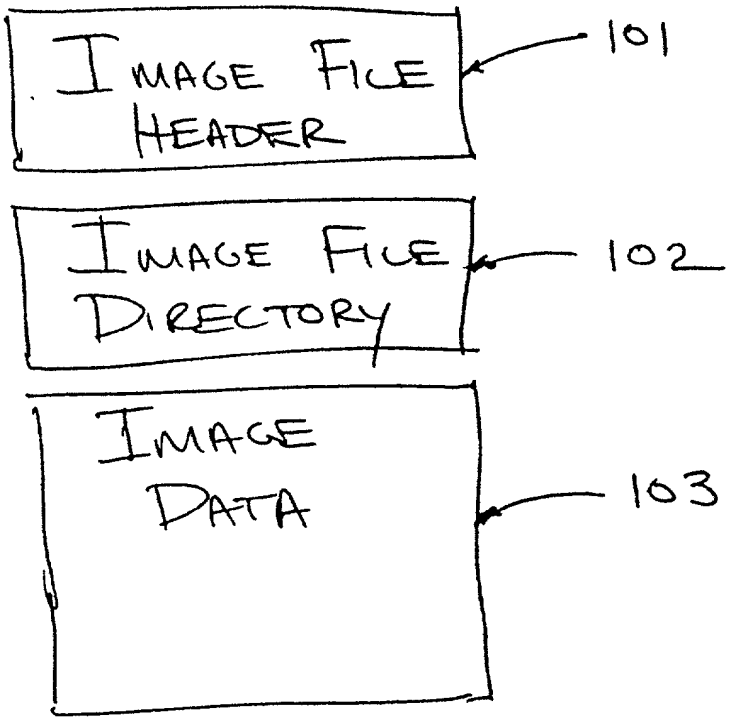


IMAGE FILE HEADER
101
IMAGE FILE DIRECTORY
102
IMAGE DATA
103

FIG. 1

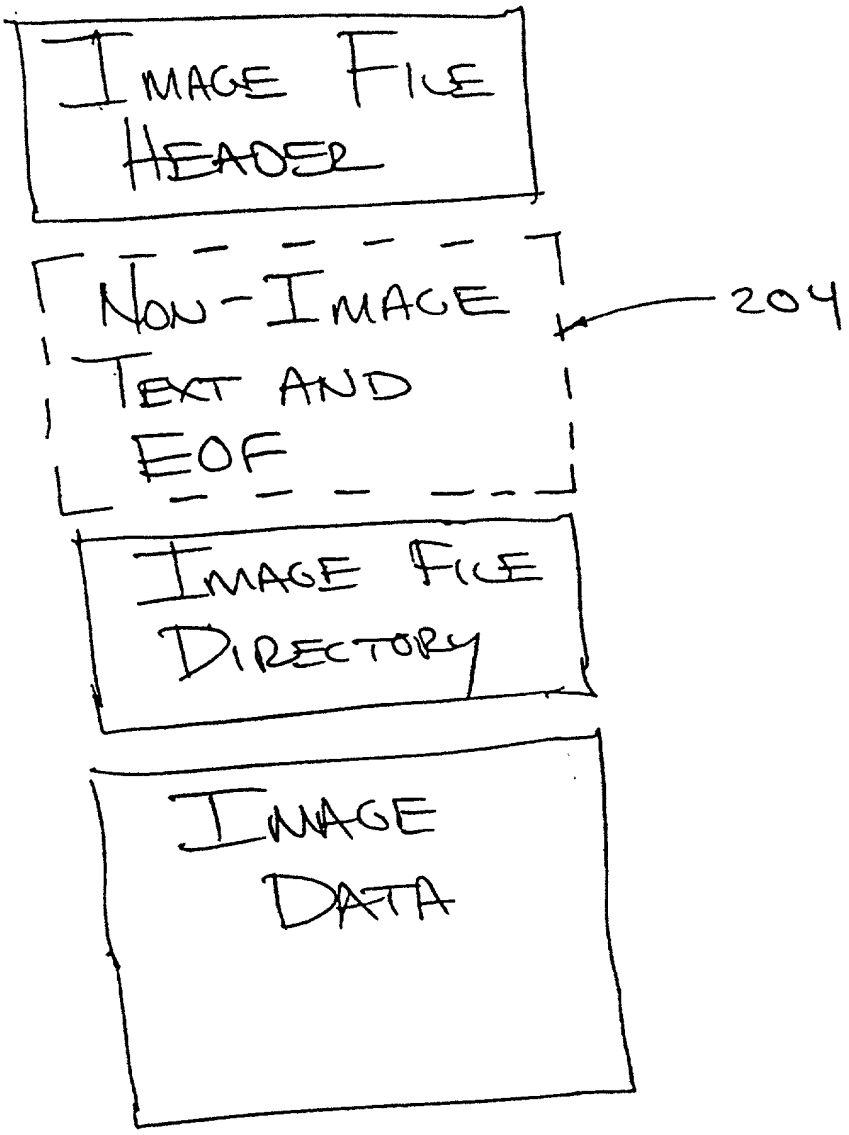
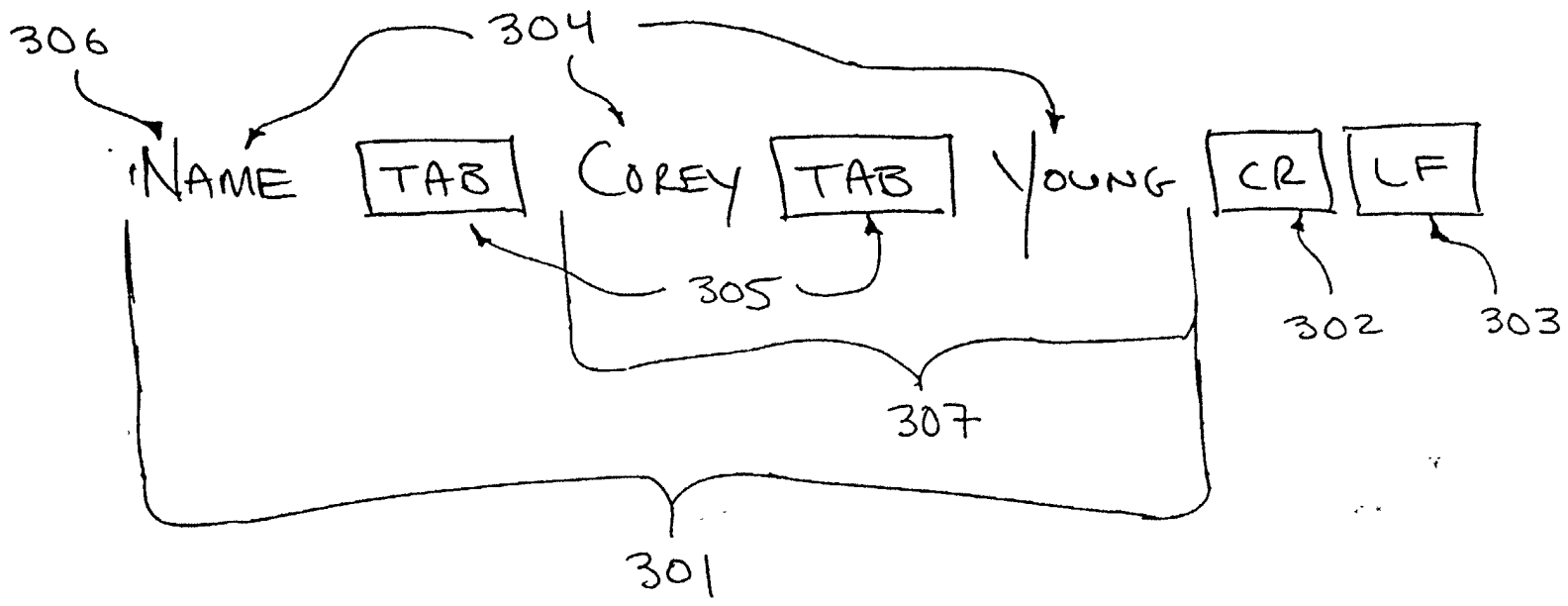


IMAGE FILE HEADER
NON-IMAGE TEXT AND EOF
204
IMAGE FILE DIRECTORY
IMAGE DATA

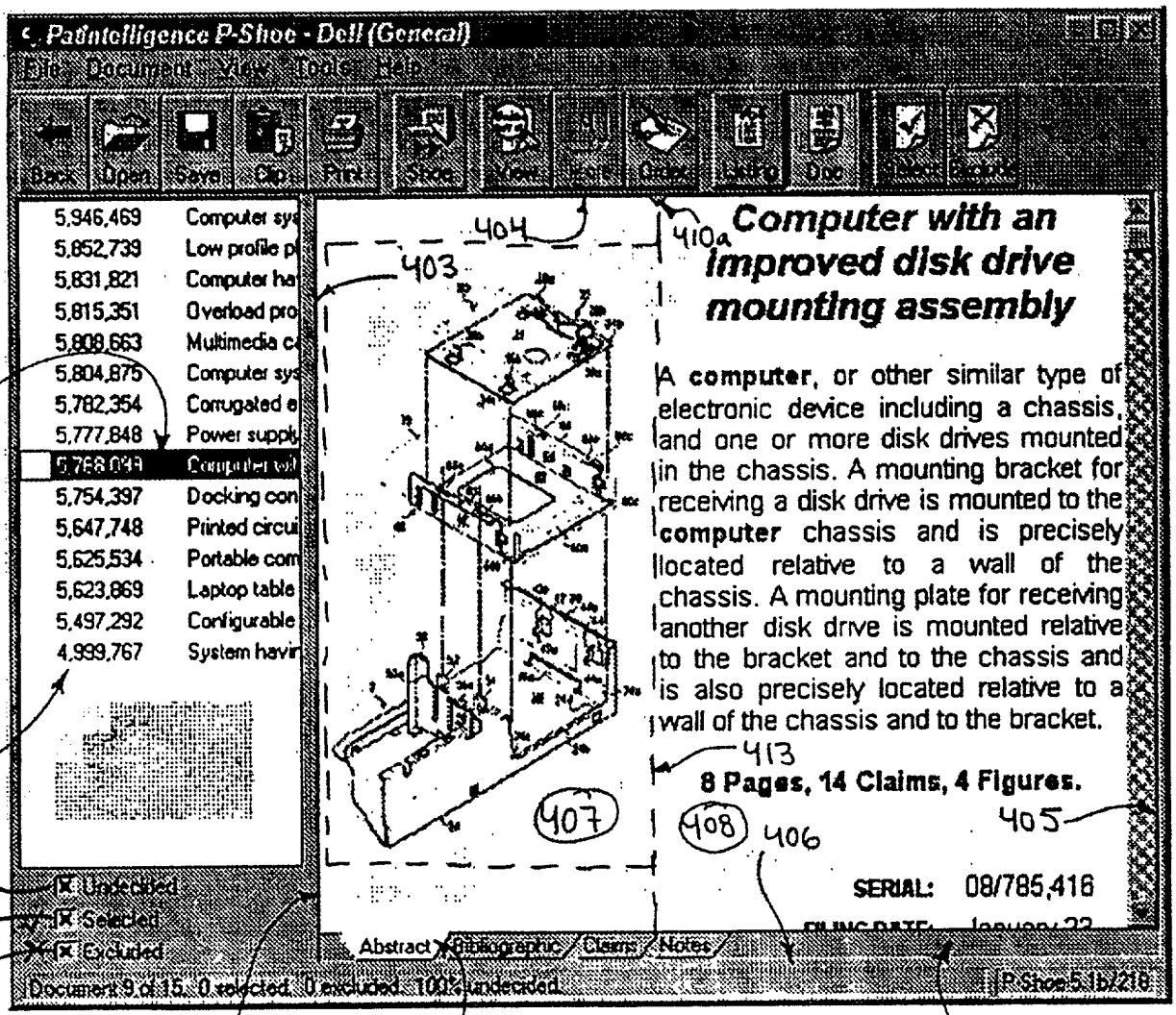
FIG. 2



DESCRIPTION TAB THIS IS A DESCRIPTION CR LF

CLAIM TAB THIS IS A CLAIM CR LF

FIG. 3


Patintelligence P-Shoe - Dell (General)
File Document View Tools Help
Back Open Save Clip Print Show Mark Sort Order Index Doc Next Prev
5,946,469 Computer sys
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Document 9 of 15, 0 selected, 0 excluded, 100% undecided
404
403
410a
Computer with an improved disk drive mounting assembly
A computer, or other similar type of electronic device including a chassis, and one or more disk drives mounted in the chassis. A mounting bracket for receiving a disk drive is mounted to the computer chassis and is precisely located relative to a wall of the chassis. A mounting plate for receiving another disk drive is mounted relative to the bracket and to the chassis and is also precisely located relative to a wall of the chassis and to the bracket.
413
8 Pages, 14 Claims, 4 Figures.
405
407
408
406
SERIAL: 08/785,416
Abstract Bibliographic Claims Notes
P-Shoe 5.1b/218
412
411
416
414
415
401
409
402

FIG. 4

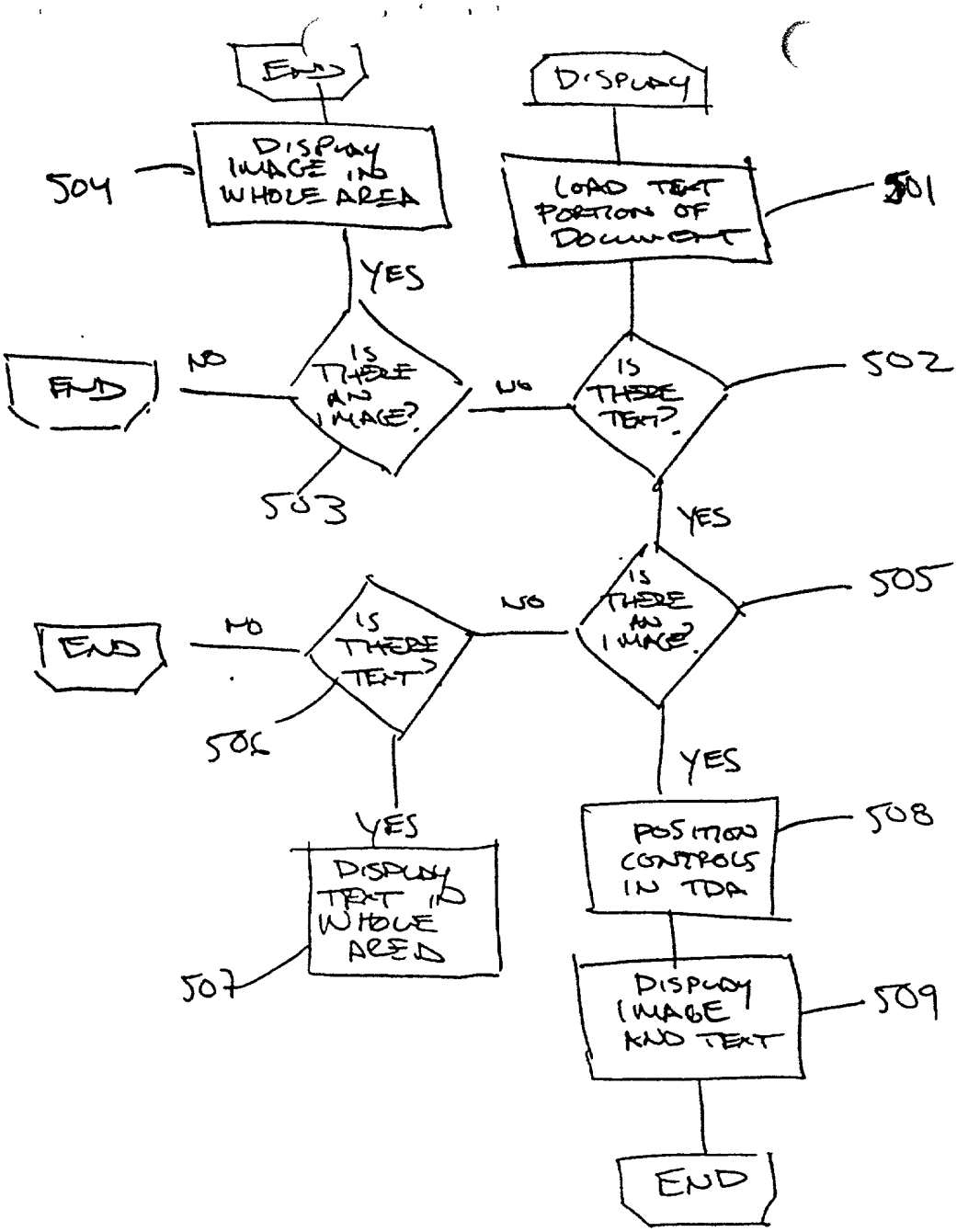
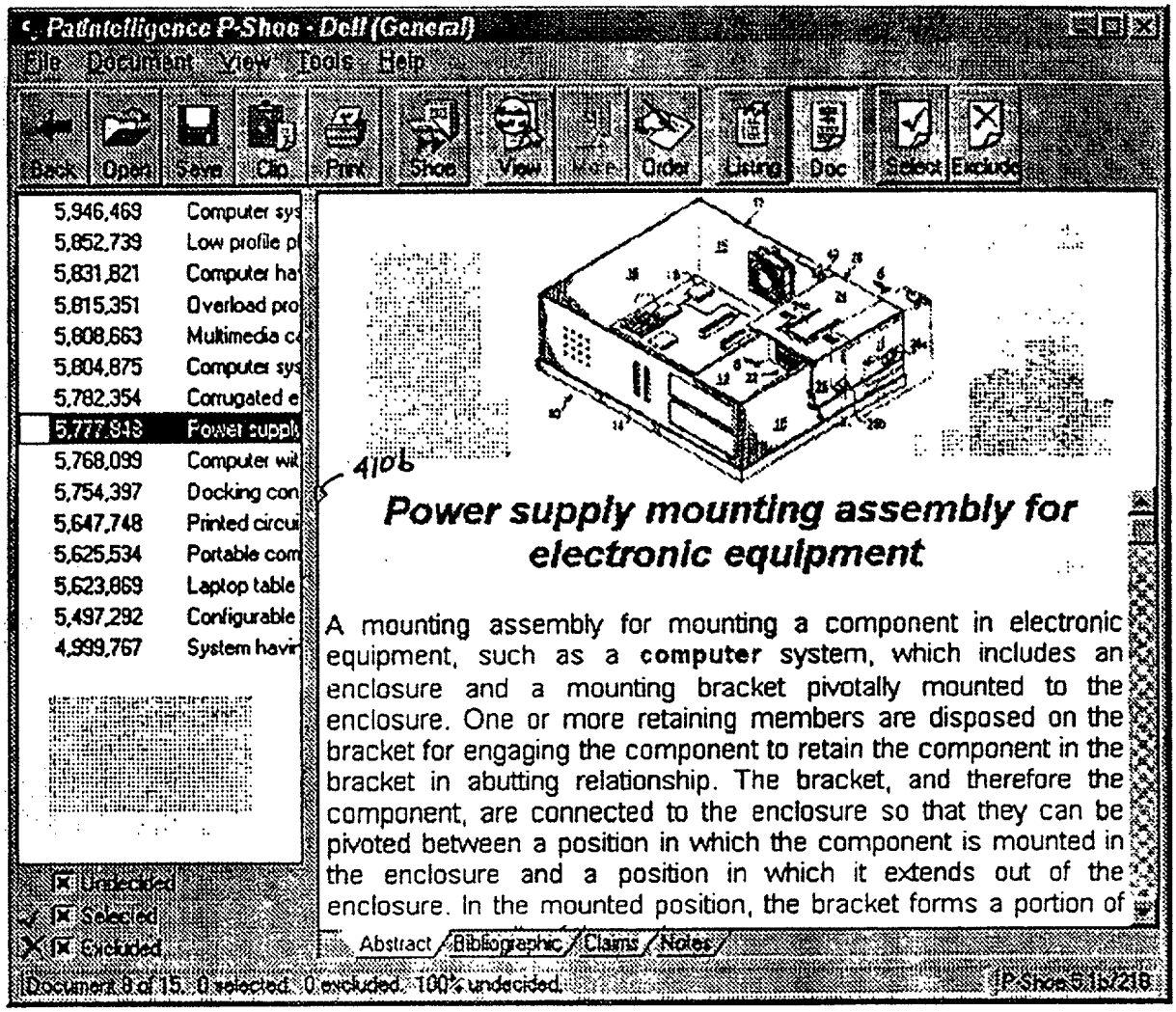

END
DISPLAY
DISPLAY IMAGE IN WHOLE AREA
504
LOAD TEXT PORTION OF DOCUMENT
501
YES
IS THERE AN IMAGE?
NO
END
NO
IS THERE TEXT?
502
503
YES
IS THERE AN IMAGE?
505
NO
IS THERE TEXT?
NO
END
506
YES
YES
DISPLAY TEXT IN WHOLE AREA
507
POSITION CONTROLS IN TDA
508
DISPLAY IMAGE AND TEXT
509
END

FIG. 5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5,497,292 Configurable
4,999,767 System havir
4106
Power supply mounting assembly for electronic equipment
A mounting assembly for mounting a component in electronic equipment, such as a computer system, which includes an enclosure and a mounting bracket pivotally mounted to the enclosure. One or more retaining members are disposed on the bracket for engaging the component to retain the component in the bracket in abutting relationship. The bracket, and therefore the component, are connected to the enclosure so that they can be pivoted between a position in which the component is mounted in the enclosure and a position in which it extends out of the enclosure. In the mounted position, the bracket forms a portion of
Undecided
Selected
Excluded
Abstract Bibliographic Claims Notes
Document 8 of 15. 0 selected. 0 excluded. 100% undecided.
IP Shoe 5.1b/216

FIG. 6

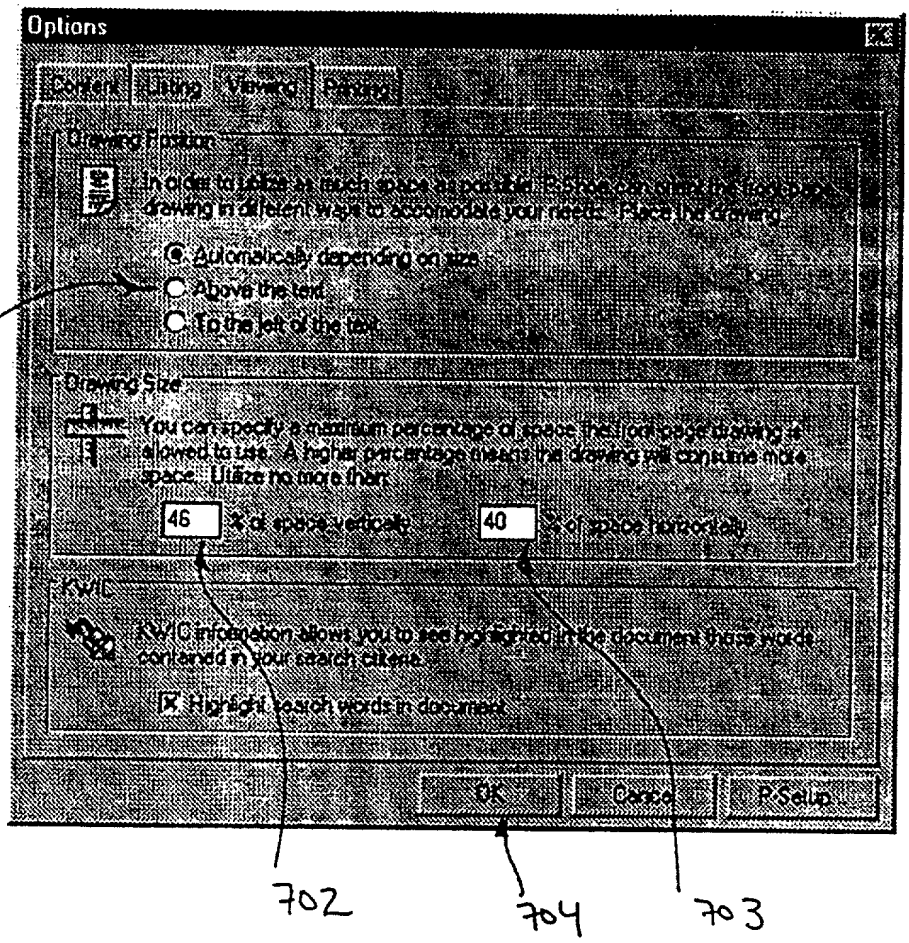
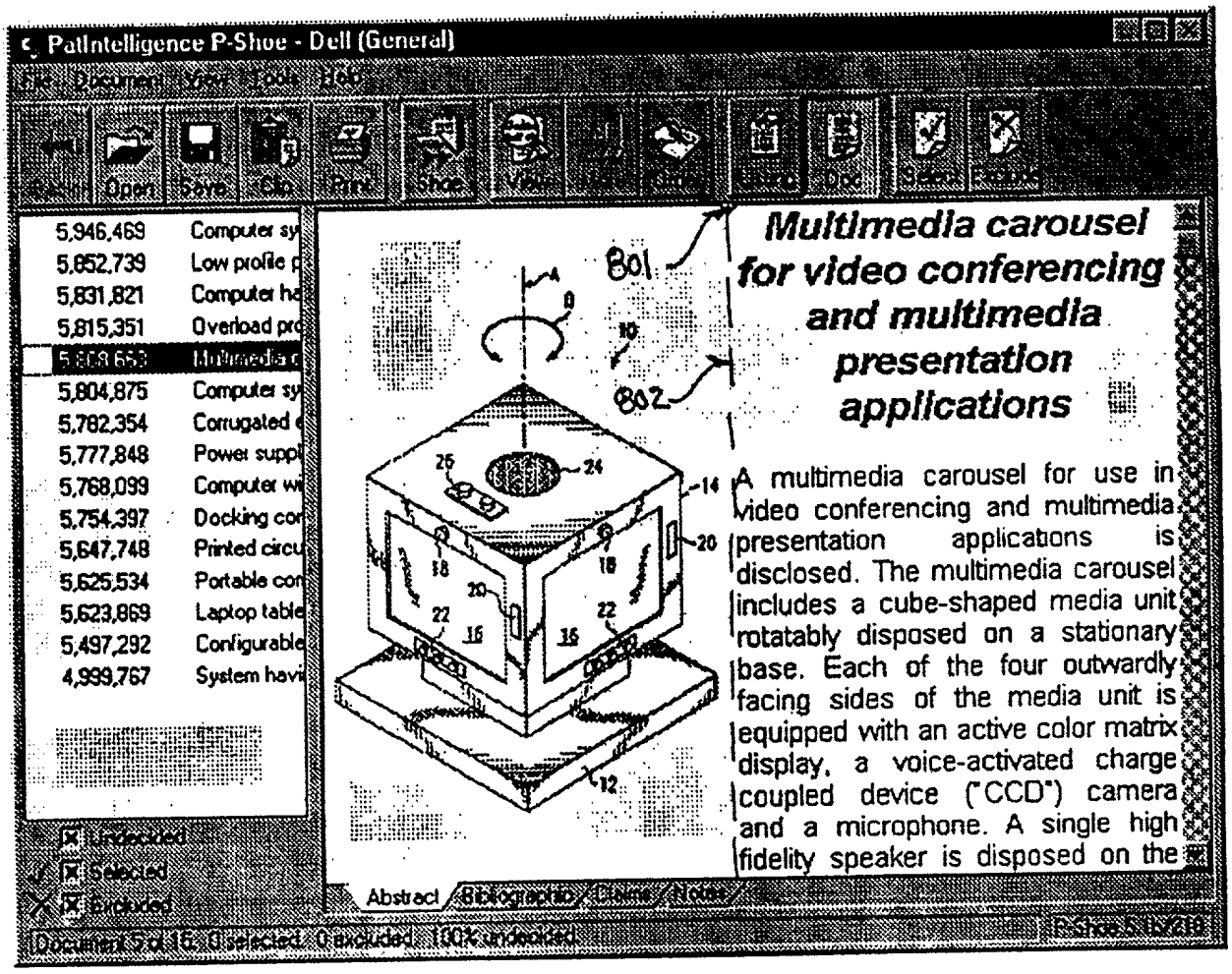

Options
Content
Linking
Viewing
Printing
Drawing Rotation
Automatically depending on size
Above the text
To the left of the text
Drawing Size
You can specify a maximum percentage of space that large drawings are allowed to use. A higher percentage means that drawings will consume more space. Utilize no more than
46
% of space vertically
40
% of space horizontally
KWIC
KWIC information allows you to see highlighted in the document those words contained in your search criteria.
Highlight search words in document
OK
Cancel
P.Setup
701
702
704
703

FIG. 7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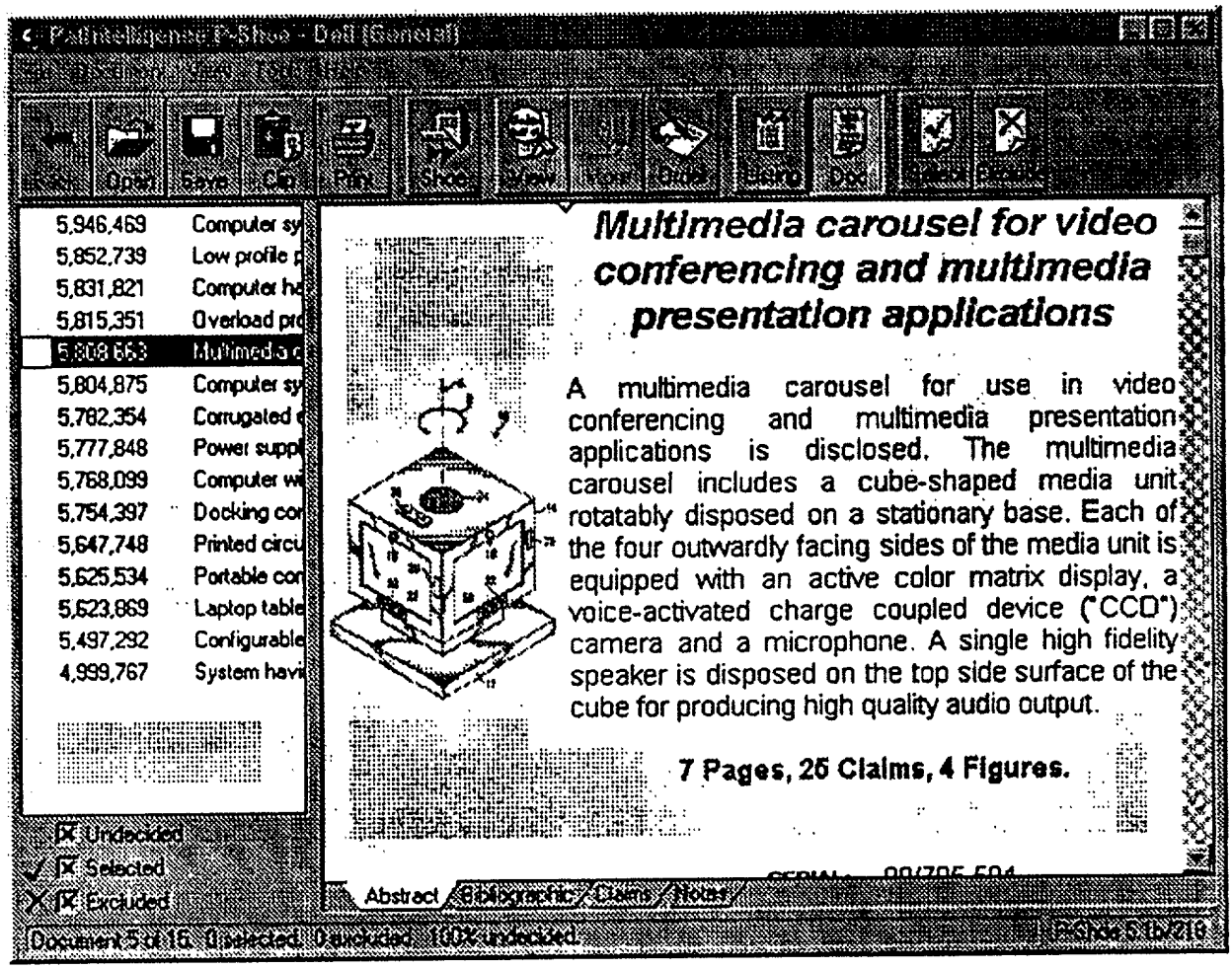
5,625,534 Portable con
5,623,869 Laptop table
5,497,292 Configurable
4,999,767 System havi
Undecided
Selected
Excluded
Multimedia carousel for video conferencing and multimedia presentation applications
A multimedia carousel for use in video conferencing and multimedia presentation applications is disclosed. The multimedia carousel includes a cube-shaped media unit rotatably disposed on a stationary base. Each of the four outwardly facing sides of the media unit is equipped with an active color matrix display, a voice-activated charge coupled device ("CCD") camera and a microphone. A single high fidelity speaker is disposed on the
Abstract
Document 5 of 16, 0 selected, 0 excluded, 100% undecided
P-Shoe 5,182,219

Fig. 8


5,946,469 Computer sy
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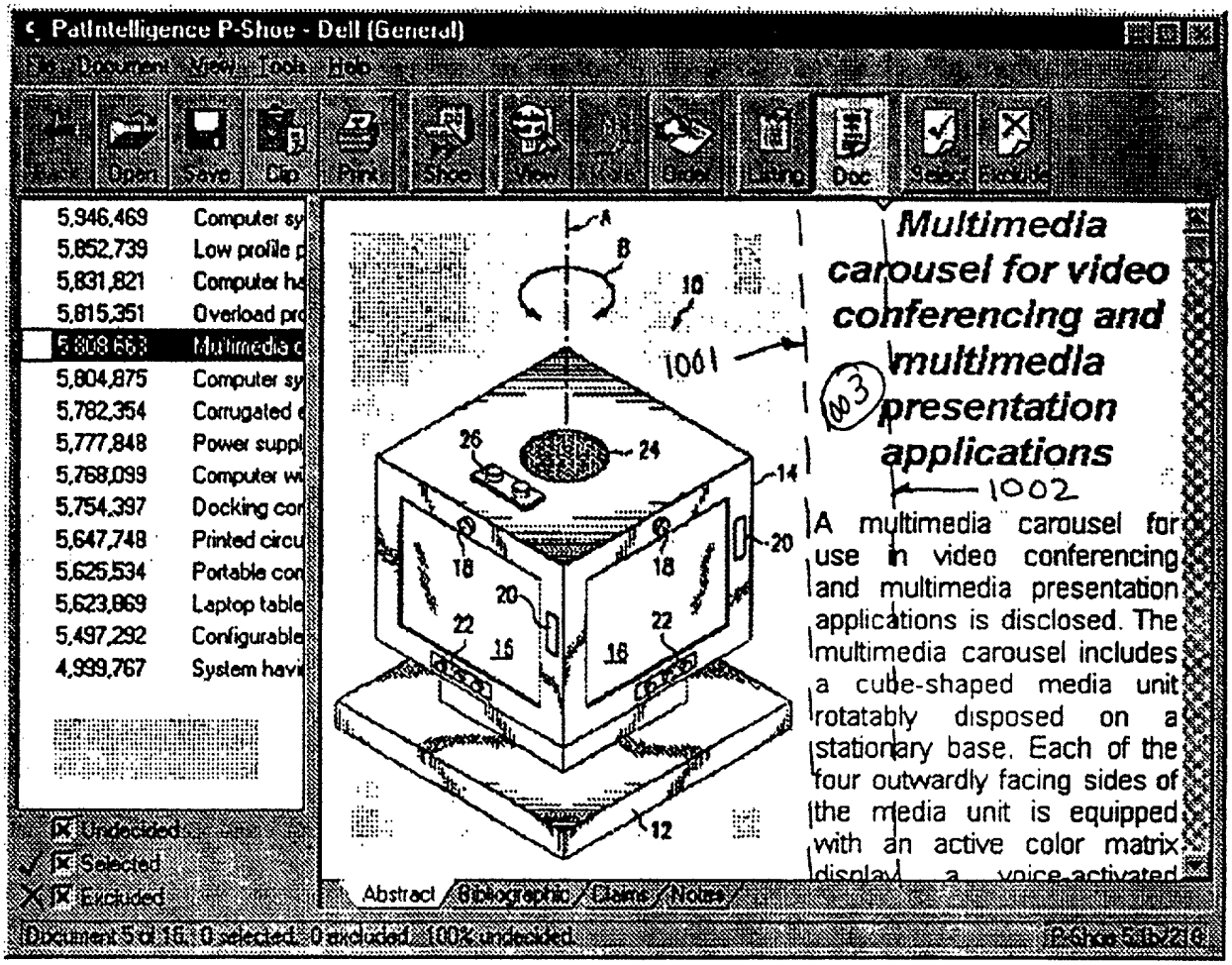
5,625,534 Portable com
5,623,869 Laptop table
5,497,292 Configurable
4,999,767 System havi
Undecided
Selected
Excluded
Multimedia carousel for video conferencing and multimedia presentation applications
A multimedia carousel for use in video conferencing and multimedia presentation applications is disclosed. The multimedia carousel includes a cube-shaped media unit rotatably disposed on a stationary base. Each of the four outwardly facing sides of the media unit is equipped with an active color matrix display, a voice-activated charge coupled device ("CCD") camera and a microphone. A single high fidelity speaker is disposed on the top side surface of the cube for producing high quality audio output.
7 Pages, 25 Claims, 4 Figures.
Abstract
Bibliographic
Claims
Notes
Document 5 of 15, 0 selected, 0 excluded, 100% undecided.

FIG. 9


PatIntelligence P-Shoe - Dell (General)
File Document View Tools Help
Open
Save
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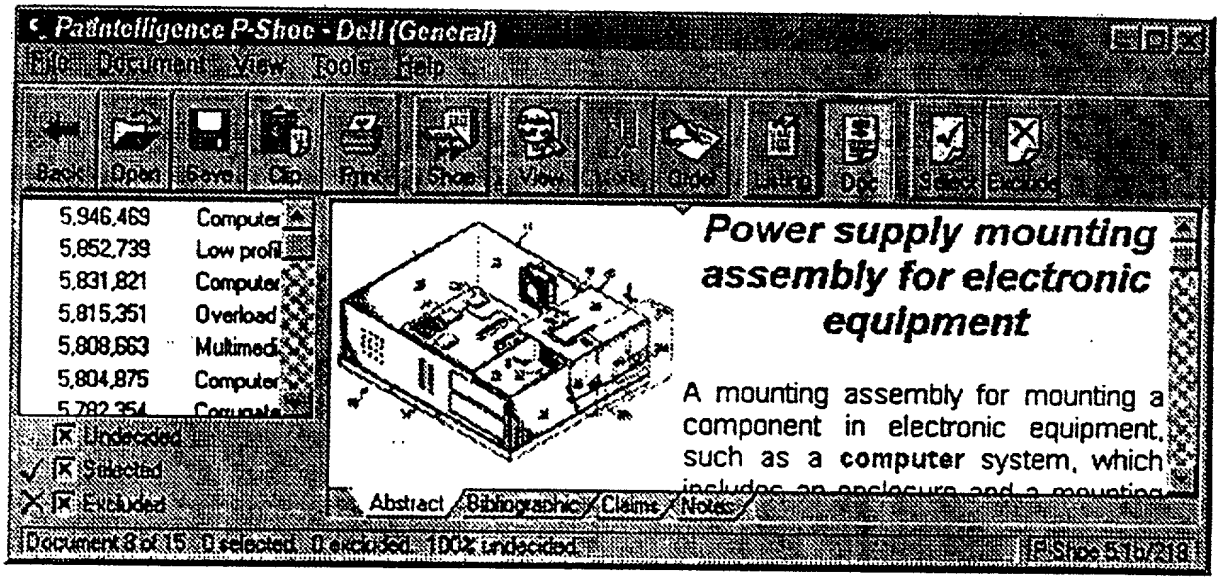
Print
Share
View
Move
Order
Undecided
Selected
Excluded
Abstract
Bibliographic
Claims
Notes
Multimedia carousel for video conferencing and multimedia presentation applications
1002
A multimedia carousel for use in video conferencing and multimedia presentation applications is disclosed. The multimedia carousel includes a cube-shaped media unit rotatably disposed on a stationary base. Each of the four outwardly facing sides of the media unit is equipped with an active color matrix

FIG. 10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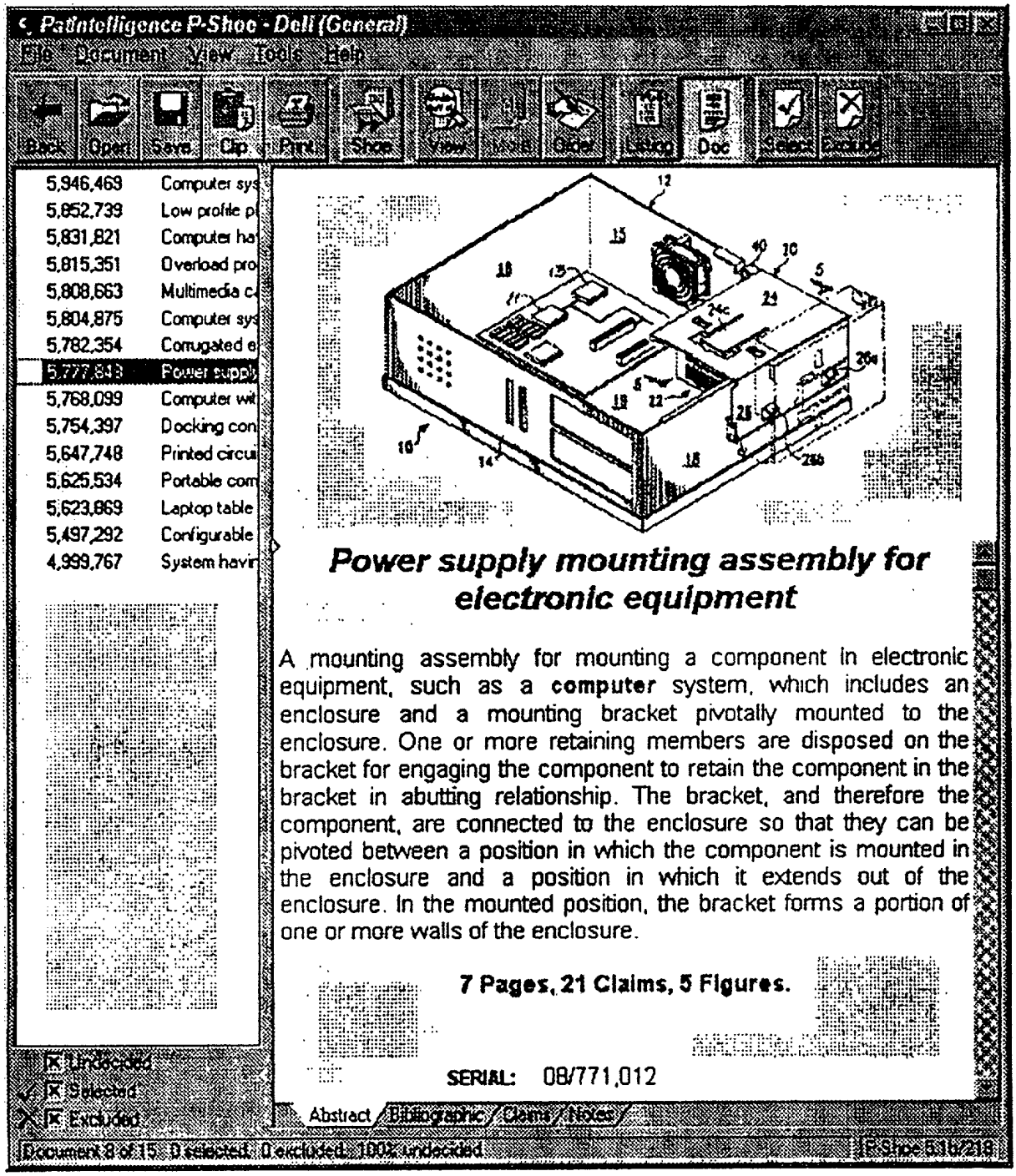
File Document View Tools Help
Back Open Save Clip Print Shoe View Note Glide Library Dig Select Exclude
5,946,469 Computer
5,852,739 Low profil
5,831,821 Computer
5,815,351 Overload
5,808,663 Multimedi
5,804,875 Computer
Undecided
Selected
Excluded
Power supply mounting assembly for electronic equipment
A mounting assembly for mounting a component in electronic equipment, such as a computer system, which
Abstract Bibliographic Claims Notes
Document 3 of 15 0 selected 0 excluded 100% undecided
P-Shoe 5.1b/3B

FIG. 11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File Document View Tools Help
Back Open Save Clip Print Shoe View Mark Order Letter Doc Select Exclude
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5,804,875 Computer sys
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5,754,397 Docking con
5,647,748 Printed circui
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Power supply mounting assembly for electronic equipment
A mounting assembly for mounting a component in electronic equipment, such as a computer system, which includes an enclosure and a mounting bracket pivotally mounted to the enclosure. One or more retaining members are disposed on the bracket for engaging the component to retain the component in the bracket in abutting relationship. The bracket, and therefore the component, are connected to the enclosure so that they can be pivoted between a position in which the component is mounted in the enclosure and a position in which it extends out of the enclosure. In the mounted position, the bracket forms a portion of one or more walls of the enclosure.
7 Pages, 21 Claims, 5 Figures.
SERIAL: 08/771,012
Undecided
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Excluded
Abstract Bibliographic Claims Notes
Document 8 of 15. 0 selected, 0 excluded, 100% undecided.
P-Shoe 5/16/218

FIG. 12

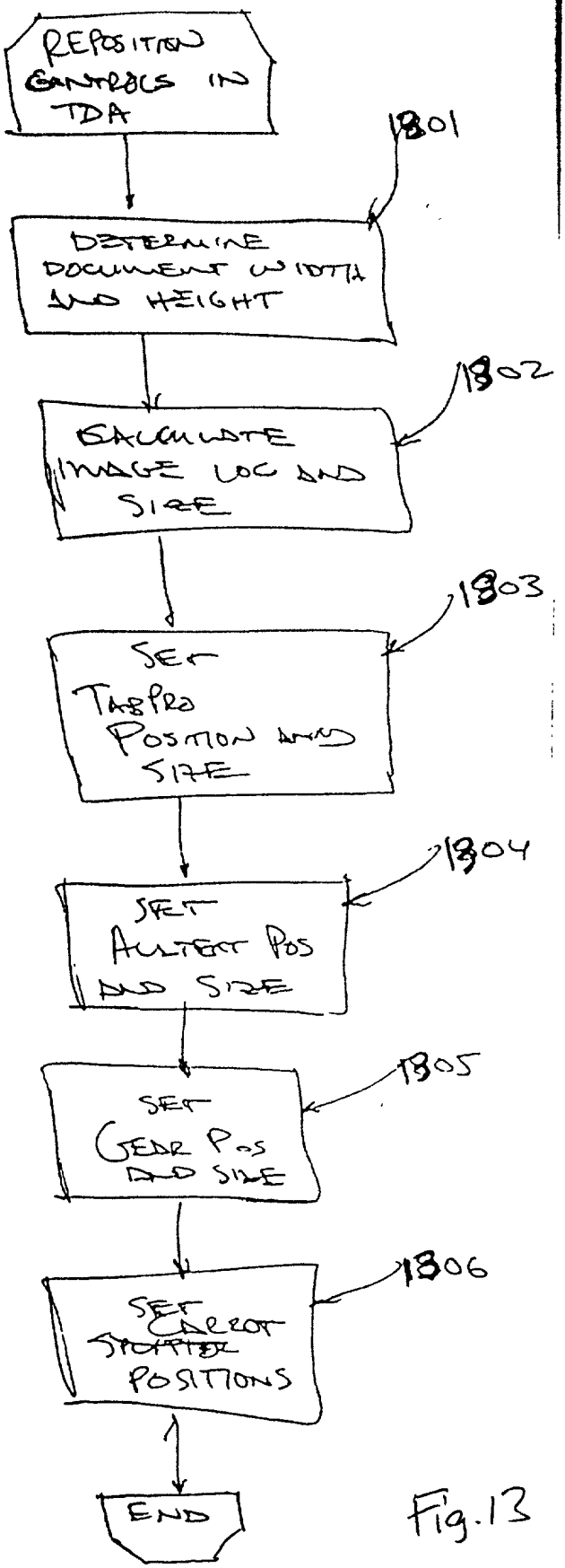
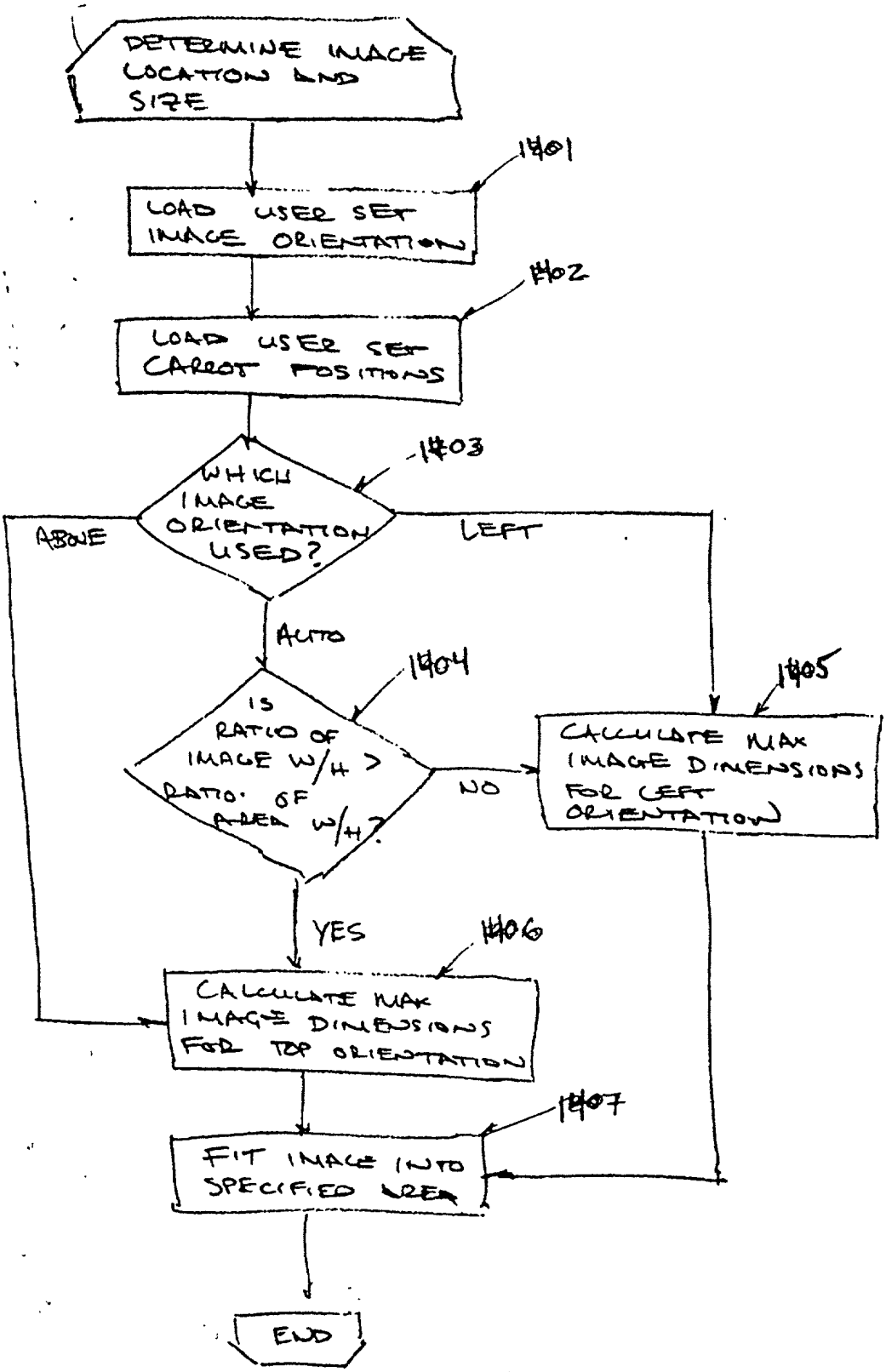

REPOSITION CONTROLS IN TDA
1801
DETERMINE DOCUMENT WIDTH AND HEIGHT
1802
CALCULATE IMAGE LOC AND SIZE
1803
SET TABPRO POSITION AND SIZE
1804
SET ALLTEXT POS AND SIZE
1805
SET GEDR POS AND SIZE
1806
SET CARROT SCROLLBOX POSITIONS
END

Fig. 13

FIG. 14


DETERMINE IMAGE LOCATION AND SIZE
1401
LOAD USER SET IMAGE ORIENTATION
1402
LOAD USER SET CARROT POSITIONS
1403
WHICH IMAGE ORIENTATION USED?
ABOVE
LEFT
AUTO
1404
IS RATIO OF IMAGE W/H > RATIO OF AREA W/H ?
NO
1405
CALCULATE MAX IMAGE DIMENSIONS FOR LEFT ORIENTATION
YES
1406
CALCULATE MAX IMAGE DIMENSIONS FOR TOP ORIENTATION
1407
FIT IMAGE INTO SPECIFIED AREA
END

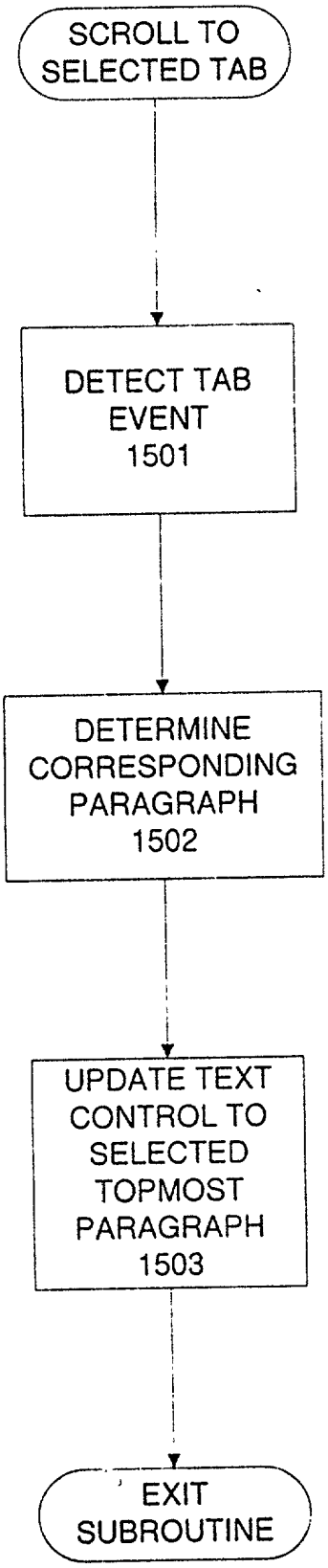

SCROLL TO SELECTED TAB
DETECT TAB EVENT 1501
DETERMINE CORRESPONDING PARAGRAPH 1502
UPDATE TEXT CONTROL TO SELECTED TOPMOST PARAGRAPH 1503
EXIT SUBROUTINE

Fig 15

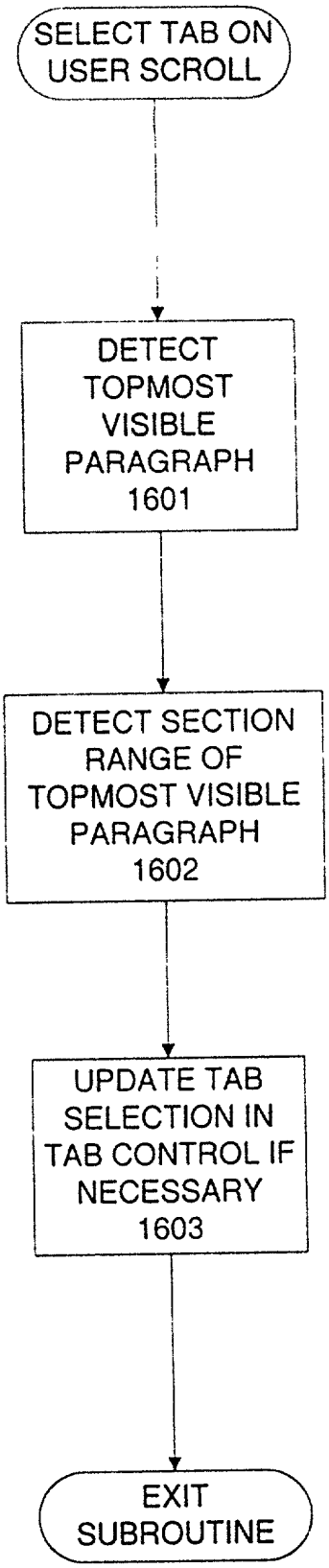

SELECT TAB ON USER SCROLL
DETECT TOPMOST VISIBLE PARAGRAPH 1601
DETECT SECTION RANGE OF TOPMOST VISIBLE PARAGRAPH 1602
UPDATE TAB SELECTION IN TAB CONTROL IF NECESSARY 1603
EXIT SUBROUTINE

Fig 16

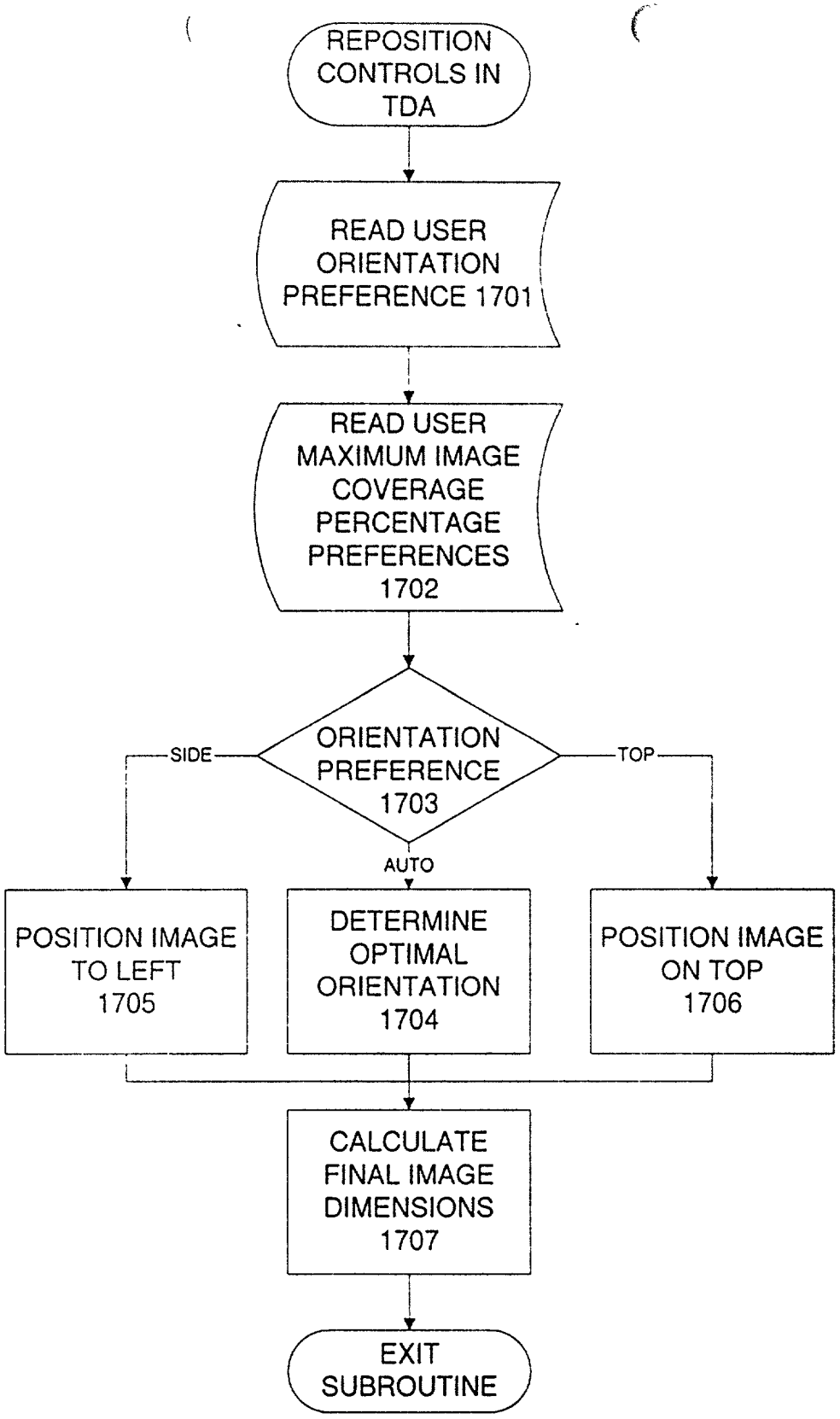

REPOSITION CONTROLS IN TDA
READ USER ORIENTATION PREFERENCE 1701
READ USER MAXIMUM IMAGE COVERAGE PERCENTAGE PREFERENCES 1702
ORIENTATION PREFERENCE 1703
SIDE
AUTO
TOP
POSITION IMAGE TO LEFT 1705
DETERMINE OPTIMAL ORIENTATION 1704
POSITION IMAGE ON TOP 1706
CALCULATE FINAL IMAGE DIMENSIONS 1707
EXIT SUBROUTINE

Fig. 17

SCANNED, #____

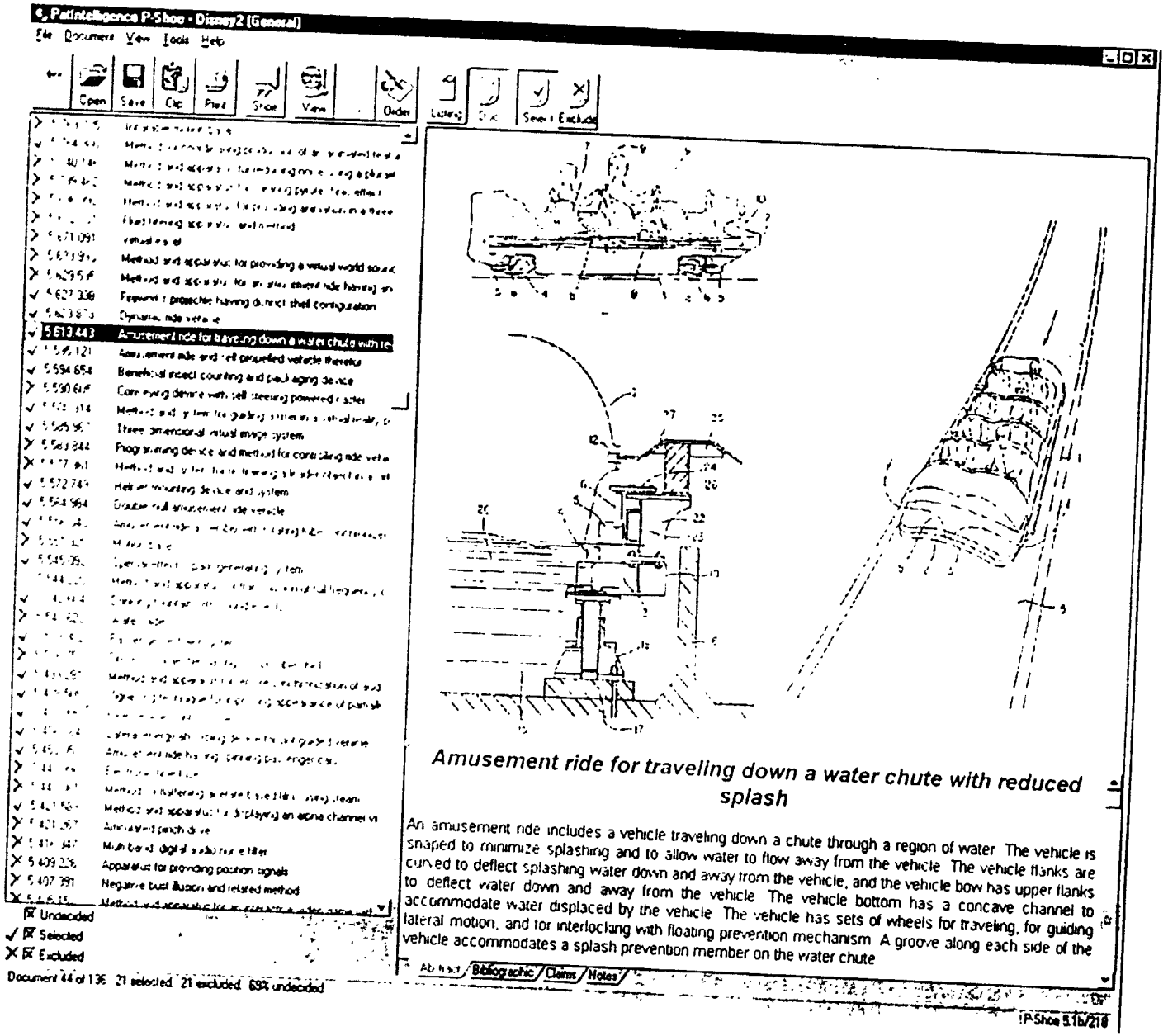


Fig 18

DOCKET ALARM

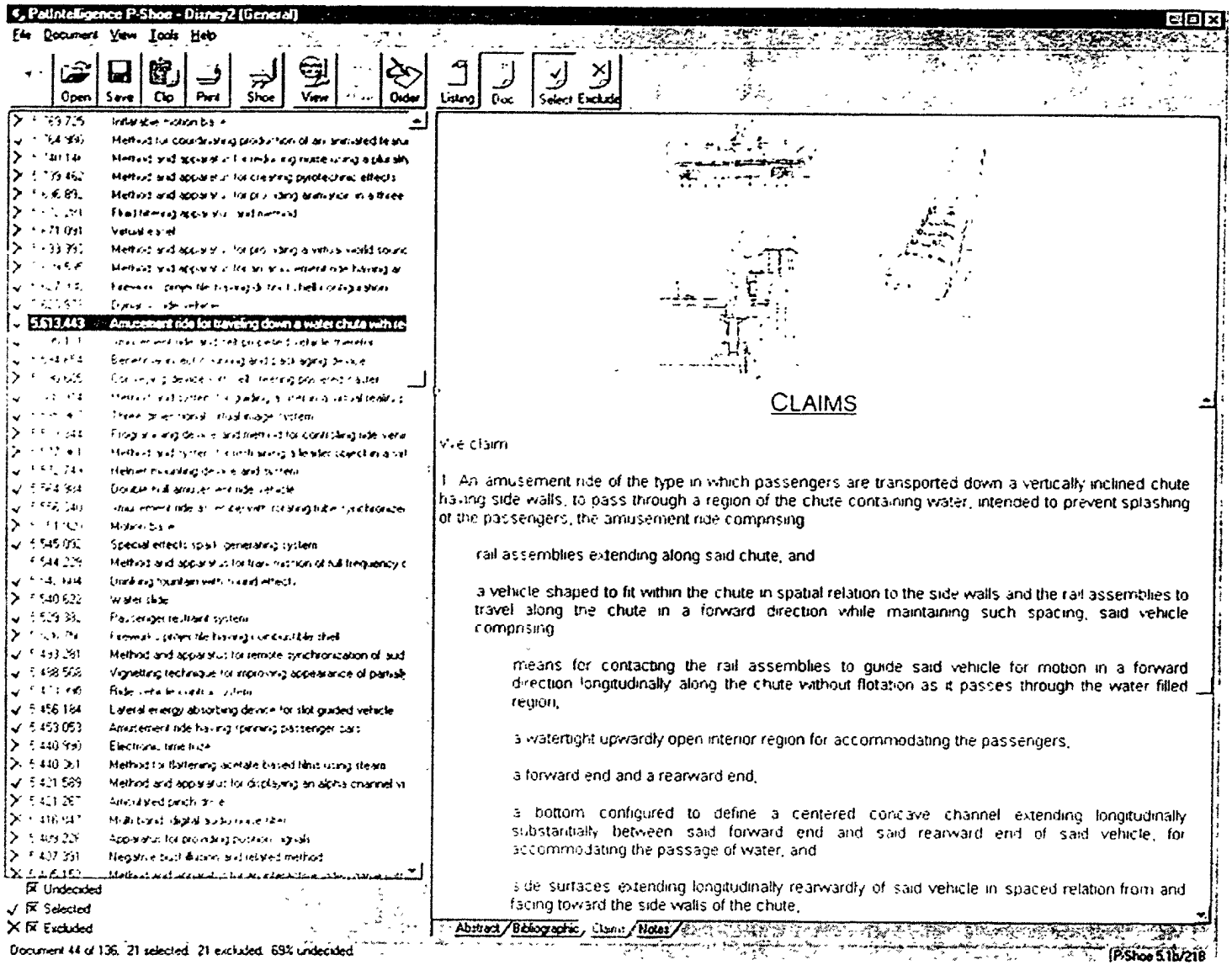
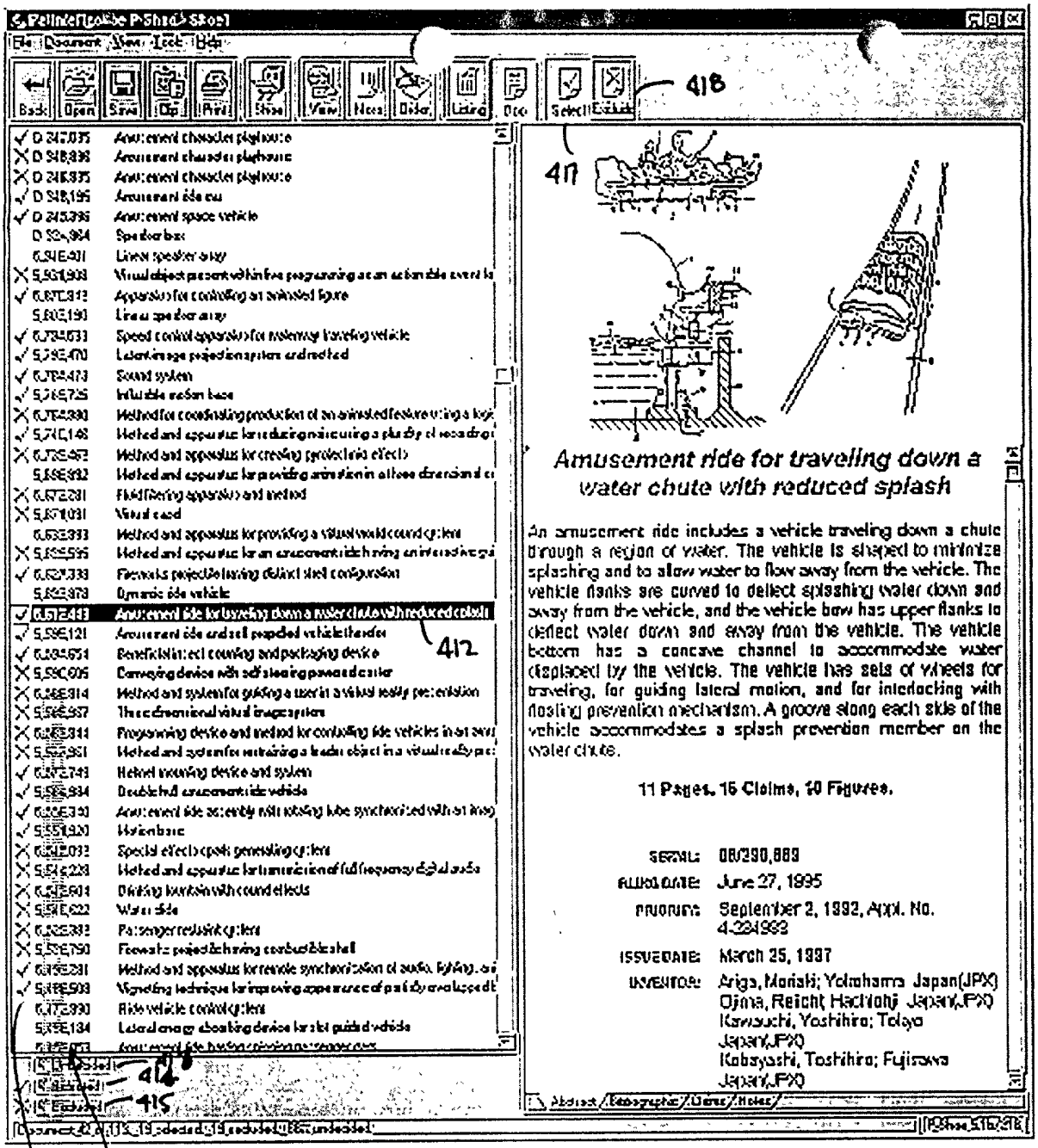


Fig. 19



Amusement ride for traveling down a water chute with reduced splash

An amusement ride includes a vehicle traveling down a chute through a region of water. The vehicle is shaped to minimize splashing and to allow water to flow away from the vehicle. The vehicle flanks are curved to deflect splashing water down and away from the vehicle, and the vehicle bow has upper flanks to deflect water down and away from the vehicle. The vehicle bottom has a concave channel to accommodate water displaced by the vehicle. The vehicle has sets of wheels for traveling, for guiding lateral motion, and for interlocking with flooding prevention mechanism. A groove along each side of the vehicle accommodates a splash prevention member on the water chute.

11 Pages, 15 Claims, 10 Figures.

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Fig. 20

DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

Attorney Docket No.
MCP 207

As the below named inventors, I/We hereby declare that:

My/Our name(s), residence(s), post office address(es) and citizenship(s) is/are as stated below next to my/our name(s).

If one name appears below, I am the sole inventor of the subject matter sought to be patented.

If two or more names appear below, we are joint inventors of the subject matter sought to be patented.

I/We believe I/We am/are the original; and first inventor(s) of the subject matter which is claimed and for which a patent is sought on the invention entitled

ENHANCED HUMAN COMPUTER USER INTERFACE SYSTEM FOR SEARCHING AND BROWSING DOCUMENTS

the specification of which

[x] is attached hereto.

[ ] was filed on _____ as application Serial No. _____.

I/We hereby state that I/We reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I /We acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56(a).

I/We also acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, Section 1.63(d), which occurred between the filing date of the prior application and the filing date of the continuation-in-part application, if this is a continuation-in-part application.

I/We hereby claim foreign priority benefits under Title 35, United States Code, Section 119 of any foreign application(s) for the patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application: _____ Application No.
filed

Priority Claimed: ____ Yes ___ No

I/We hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, Section 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

Application Serial No.	Filing Date	Status (patented, pending, abandoned)
Application Serial No.	Filing Date	Status (patented, pending, abandoned)

I/We hereby declare that all statements made herein of my/our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

I/We hereby appoint the following attorneys and/or agents to represent me with respect to the above identified U.S. Patent Application, and to prosecute any continuations, continuations-in-part, reissue applications and/or reeaxaminations with respect to these applications and to transact all business in the Patent and Trademark Office connected therewith, and hereby expressly revoke all prior powers, whatever they may be, heretofore had herein:

Karl F. Milde, Jr., Reg. No. 24, 822; Steven M. Hoffberg, Reg. No. 33,511 and Kenneth E. Macklin, Reg. No. 20,875, all of 10 Bank Street, Suite 460, White Plains, New York 10606, my/our attorneys with full power of substitution and revocation.

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